Thesis on

The Hygienic Treatment of Pulmonary Tuberculosis with Special remarks on the Influence of Climate.

by

John Vernon Seddall.

1854.
Introduction.

Pulmonary Tuberculosis, or Tuberculosis Pulmonalis, Consumption, is one of those maladies which has engaged the attention of the profession since the first days of medicine. It, like all other diseases, has had its favorite remedies and specific for cure, and of positive kinds of treatment, have been recommended, according to the prevailing theory of its essential nature. Even to this day thousands of different medicines are being sold and administered all parts of the globe as wonderful specifics for the cure of consumption, notwithstanding the publication of the many valuable treatises which have lately appeared from the press tending to point out the absurdity of such specifics, and showing the necessity of treating the disease constitutionally and hygienically, with reference not to the disease itself but to the peculiar nature of the individual.

Tuberculosis pulmonalis is now universally admitted to be a disease affecting the blood primarily and the whole constitution secondary; how this constitution is influenced by causes external as well as internal to the body: these external causes must be adequately adapted to the constitution of the blood,
and to the idiosyncrasies of the individual in order
that the health of a healthy individual might be
preserved, and any excess or deficiency in these external
agents cannot fail to alter the constitution of the
blood, as to disturb one or more of the functions of the
system and thus impair the general health.

Such more would take an excess or deficiency act
upon a constitution already tainted, as with a tubercu-
lar diathesis, either hereditary or acquired, and our
main object therefore in restoring the health of such
an individual ought to be to place him in such
circumstances as that these external causes, long-
term, humidity, density of the air, etc., should be so
adapted to his constitution as to allow of the preserva-
tion of the normal quality of the blood, and permit of
the proper working of his functions.

Our treatment of tuberculosis must, consequently be
principally guided by hygienic rules and a great
auxiliary to the fulfilling of these regulations is
removal from a climate ill-suited to the constitution
to one better adapted and more conformable to the
patient's nature, habits and modes of life.

It is my purpose in the present paper to point
out the principal hygienic rules to be observed
in the treatment of tuberculosis both in the predis-
just before the disease had established itself, and after the disease has developed itself in the system under the form of pulmonary tuberculosis.

But what I shall direct attention to must be the consideration of the influence of climate on the alleviation or cure of tuberculosis, a subject of high importance and one which until within the last few years has been inadequately considered.

Much has been written on the influence of climate on disease by eminent medical men whose labors have been cast amongst various kinds of diseases in different countries and climates and many valuable investigations have been made on the prevalence of certain diseases in certain countries, upon the reported cure of such diseases being prevalent in those countries, and upon the beneficial effects which certain climates are said to exert over the treatment of some constitutional diseases.

No disease has perhaps received more attention as regards this point than Pulmonary Tuberculosis; and it is not to be wondered at that this disease has so closely elicited the attention of the profession when one considers its almost unrelieved prevalence, destroy- ing as it does nearly one-twelfth of the popula- tion of this country.
For years past practitioners have been in the habit of recommending certain countries to phthisical patients and erroneously have they been impressed with the supposed charm which these countries are possessed of in the case of phthisis. And so, it seems a patient can be made out to be one of consumption than he was packed off without any regard to his circumstances, former habits, mode of living, &c., to one of those celebrated resorts for invalids. The consequences of such a step have in many instances been very serious as well to the individual patient as to his friends and relations.

The present state of our knowledge as regards the nature of tuberculosis had led to a more rational mode of treatment of phthisis than was pursued some years back, founded upon the fact that it is essentially a constitutional disease. We now know that phthisis is not to be cured by residence in any one particular climate, but by a proper attention to certain hygienic rules indicated by the habits and idiosyncrasy of the patient. As we shall hereafter see there are certain countries in which phthisis prevails more than in others, and on the other hand there are other countries which appear to be comparatively free from the disease.
This we shall find attributable to something in the inhabitants, rather than to anything in the climate itself. It will be my endeavor to point out that phthisis once commenced cannot be stopped swiftly by removal to a warmer climate but, on the contrary, the same stage of phthisis may be arrested by attention to the hygienic rules indicated by the constitution of the patient, without removal from his comfortable home.

Let it not be understood, that I intend to underrate the effects which change of air produced by removal to a different climate in an individual labouring under Phthisis or any other disease, can have on it. We all know how invigorating and beneficial to the constitution is the mere removal from the town to the country, from inland districts, to sea-bathing resorts, but there is very little doubt that unless the mind were relieved from the cares and anxieties of the business of everyday life, by intermixing with new scenes and new society and the proper usage of such exercise and amusement which a country district or a watering place affords, a very small amount of benefit would arise from change of residence.

The same remarks refer to the removal of phthisical
Patients from England to warm climates. It very often happens that a patient laboring under phthisis consults an eminent medical man, who immediately by orders him off to Italy, Madeira or elsewhere. This patient is perhaps in straitened circumstances, notwithstanding which his friends naturally anxious for his restoration to health are6 disposed of following the advice of the doctor and continue by sacrificing comforts and probably reducing the number of the family at home by sending some out as promised to stave up sufficient to allow the sufferer to travel in Italy or where he is recommended to go. The leaves home with a heavy burden on his mind that he has been the cause of subjecting his family to privations and has obliged his brothers perhaps to leave their mothers off and look for situations to help support them. Arrived in Italy he has not the means of putting up at the best hotels and must content it is that, in any but the best, the accommodation is very poor and the comforts very few in that part of the world and he finds himself subject himself to catching cold by living in a damp corner or in one exposed to cold draughts. A patient under such circumstances cannot be
happy and cannot expect much relief from his disease, by being travelling under a load of anxiety to great. The medical man should stand in the position of the intimate friend and confidant of the family, and should make himself acquainted with their pecuniary affairs, and endeavour to ascertain whether the patient can well afford all the expenses which removal to a foreign country entails. He should take the patient's case under consideration as if it were his own; he should do the best of the treatment of ailments unless he tries to relieve mental anxiety. In those cases in which patients cannot leave home with a mind free from all anxiety and care, it would be advisable to recommend them to remain at home and endeavor to bring about the relief and if possible the cure of the disease by proper attention to diet, exercise, etc., in some small part of the south of England or if possible amongst his own friends.
Where are we?
I. Essential Nature of Tuberculosis.

Many varied opinions have been given on this subject by different writers since the time of Hippocrates up to the present day, but as these views are altogether theoretical and have none of them been sufficiently supported by experiment or established by positive facts, we are obliged to confide to the ignorance of the essential nature of tuberculosis although the present state of advancing and progressing science cannot but lead us to a conviction that the period is not far distant when a satisfactory knowledge of its nature will be attained.

Among the theories of the present day we have those which refer tuberculosis to some error in the primary affection considering it's proximate cause to be the generation of an acid in the prime vitæ or an imperfect development of the chyle and lymphatic granules constituting Strauss's Dyspepsia: many objections have been raised to these views, and the fact that many cases of tuberculosis have been known to go through every stage of the disease without a dyspeptic symptom is sufficient argument to overthrow these statements.
Theories referring to tuberculosis to a special
metabolic condition of the lymphatic to defective 
respiration imperfectly replaced by the liver: to an in-
flammatory condition of the system: to debility 
of the digestive nervous power: to the presence 
of a poison in the blood have been held good 
by recent writers and have received their due 
justification.
The limits of any subject will not permit me 
to enter into the consideration of these different 
theories but I must pass on to that which is 
at present engaging the attention of the majority 
of the profession as being the most likely to arrive at 
the real nature of tuberculosis. 
I refer to the theory of Stal. Nutrition. 
It is now becoming generally admitted that 
tuberculosis depends upon a certain condition 
of the blood constituting the tubercular dulness 
or tubercular predisposition: in this condition 
it is apt to be altered in a peculiar manner by 
a disturbance of one or more of the nutritive 
functions this alteration or morbid state of the blood 
plasma involving the deposition of a morbid 
material in various organs of the body, the 
disorganization of these organs, and the establish-
ment of a train of symptoms, and disturbance of functions varying in degree according to the seat and severity of the disease.

This view of the matter has been strongly advocated and ably supported by facts and observations by many modern writers but there is no doubt that, on the present state of advanced knowledge regarding this important subject, to Dr. J.H. de Beth of this University, whose opinions expressed in his recent excellent treatise on Pulmonary Tuberculosis have met the approbation of the profession at large as being the most satisfactory and well-founded, little is ventured upon. That there is some tubercular predisposition to the establishment of tuberculosis in an individual must be evident from the fact that, malnutrition does not lead to the establishment of tuberculosis in every individual. We must therefore consider malnutrition as the exciting cause of tuberculosis only in those subjects who have the constitutional predisposition acquired hereditarily or otherwise.

The blood is considerably altered in persons of a tuberculous habit and this altered condition is the same in the predisposition.
as in the general disease itself as far as regards quality differing however in degree.
It is important to remember that the predisposition differs from the general disease only in degree, and whether the predisposition is communicated by the mother to the foetus, the blood of the child is found to present the conditions of tuberulous blood defective in vital properties to a greater or less degree, and this condition of the blood may exist for a considerable time whilst the person is in comparatively good health until the disease becomes manifest by the deposition of tubercle in some of the internal organs where of course the degree of alteration becomes increased.

Let it be remembered then that the blood is the first to be affected in tuberculous and that it is equally affected whether the predisposition exists alone or whether the disease exists, as this fact will guide us much in our treatment in endeavouring to prevent the establishment of the disease in a subject whom we suspect to be of the tuberous habit. And that prevention we might perhaps accomplish by commencing a
proper course of hygienic treatment, as early in infancy as we have grounds to suspect this predisposition, which might tend to restore the blood to its normal condition.

I believe that if it were in our power to make ourselves quite certain that a child possesses the tuberculous predisposition and that if it were possible not only to keep the nutritive functions of that child in good working order by regulation of diet, climate, etc., but also correct the defective materials in the blood by proper treatment we might to change the constitution entirely to eradicate the tuberculous hereditary predisposition.

The insurmountable difficulties however which would present themselves in the way of accomplishing such an end are so evident as to render the suggestion almost impracticable.

As regards for the tuberculous predisposition, the first condition manifest in the tuberculous individual let us now plunge on to consider the nature of second condition viz: Mal-Nutrition.

Three theories have been suggested referring tuberculosis to Mal-Nutrition.
That of Mons. Bragdelseague who ascribes the development of tubercles to the respiration of a vitiated atmosphere which, acting for some time on the blood, so vitiates it as to mo-
dify both solids and fluids to such an extent as to lead to the development of tubercles.

That of Dr. Addison, whose idea is that a disposition exists in the nutritive processes to assume a retrograde morphology, resulting from an original or acquired trait of con-
stitution. This explanation he found in the loss of vitality of the blood, in the diminished
formative energy of the cells and tissues, producing undeveloped textures, degenerations of certain organs such as the liver, and lead-
ing to the formation of tubercles.

The third is that of Dr. Bennett who defines the essential nature of tubercles to be a disturbance of the healthy relations of the oily and albuminous principles and an excess of the latter. Physiology teaches us that the material from which the blood is formed for the repair of the tissues consists of a certain proportion of oil and albumen derived from the food which is reduced into these two
important principles by the process of the primary digestion. The result of the secondary digestion is the function of assimilation in tuberculous individuals points out that the proportion of these principles in the tissues is considerably altered in tubercle as we see an excess of albumen deposited in the tissues in the shape of tubercle and defect of oil or fat, producing the emaciation so characteristic of Phthisis.

Dr. Bennet explains this phenomenon by the fact, that the acid secretions existing in the alimentary canal of phthisical individuals easily dissolve the albuminous constitutents of the food whereas by neutralizing the alkaline secretions the fatty matters are incompletely taken up with the enzyme and introduced into the system. In this state of matters different organs are disposed to suffer by the disposition of tubercle succeeding local congestion of the organs, but the principal organ affected is the lung, complicated generally into affection of the alimentary canal, and constituting the disease called phthisis pulmonalis or pulmonary interstitialis.
This is certainly a very satisfactory theory and the treatment which has been indicated for the restoration of the proportion of these two principles has undoubtedly been attended with the most favorable results.

Adopting this then as the essential nature of tuberculosis, let us consider what course of treatment we should adopt for a patient laboring under phthisis pulmonalis and how far a change of climate would influence our treatment.

Not many years ago it was the general opinion that pulmonary tuberculosis was an incurable disease. Careful investigation has proved quite the contrary, and the cases recorded of the arrestment of tuberculosis are daily increasing: the cases mentioned by Dr. Bennett in his recent publication are quite sufficient in my opinion to establish the fact that pulmonary tuberculosis is a curable disease.
II. Hygienic Treatment of Tuberculosis.
From what has been stated it is evident that we have to deal with tuberculosis in two different stages viz. when the tuberculous fever, putrid exists alone; and when the nutrition has become deranged, and pulmonary tuberculosis has begun to manifest itself.

1. The treatment of tuberculosis when the putrid fever alone exists.

I have already mentioned an individual predisposed to tuberculosis may by proper treatment be carried on until the predisposition becomes eradicated, after which he may arrive at a good old age.

There is the greatest tendency to tuberculosis in infancy and a decrement increasing towards puberty and then it takes the form of phthisis, many tuberculosis: this would lead us to believe that tubercle commences at the time of puberty whereas it is evident that there is less tubercle in the system than there at any previous time. It certainly makes its appearance in a very important organ the interference of whose function leads to serious consequences.

If you have a youngulous child to deal with
you will find that if you do not restore his health completely he will end in becoming a victim to pulmonary tuberculosis and its consequences. On the contrary if you can succeed in prolonging your patient's life until the age of forty you may safely venture to hope that he will live on to a good old age.

How is this to be accomplished? If we have a phthisical child born of phthisical parents we cannot begin too early to adopt hygienic rules of treatment.

Mothers are apt to fall into two extremes, in bringing up their children: the one is what is called the hardening system, exposing the child to insufficient clothing, not because clothes are not to be put on, but because they consider that, by exposure to cold, drafts, and atmospheric influence, that they will be less a fit to catch cold when they grow up. Under this idea they are exposed to hard, harsh, while the mother would be the last to suffer.

The other error is subjecting the infant to a perfectly artificial mode of living, coothing up the child and giving it far more care.
than is consistent with its preservation in health and vigor. The former is the act of an inexperienced mother, the latter of a mother who considers she has had a vast amount of experience.

In many cases you will find a child brought to you with complaints from the mother that the child is falling off and becoming what nurses call a soft baby and you will on inquiry soon discover that the child has been kept too too close, and has been deprived of the air of Heaven and the exercise which every living being requires.

What is the medicine to be pursued? At no time should the child be exposed to the severity of the weather: it should be warmly and comfortably clad and exposed to such weather as the child can bear. You will be able to judge of the degree of cold which the child can bear by the expression of discomfort which it manifests. You cannot lay down the same law for one child as you can for another. If you can bring the mother to attend to what the child can bear, you will be doing all you can as a medical man.
As for the diet and drink, Nature provides
thick to the mother with the birth of the child.
The influence of the mother over the preserva-
tion of health to the child is shown in the
frightful mortality of infants in the found-
ing hospitals of France and Italy thereby
proving the necessity of the mother’s care in bringing
up children.

In attending to the duties recommended to
a mother you must remember that mothers
of a good disposition will give their children
over to tutors or for the excursions of gay out-
to-parties, jumadores &c. and thus neglect
the duties which Nature had enjoined upon
them, and if she is not rewarded with due atten-
tion they will tell you that they have made
sufficient milk for the child. Nature does
not often err in giving too little milk to the
breast excepting when the mother is badly
wounded or the breasts are inflamed or
otherwise diseased: on the contrary you
find children laboring under diarrhoea
from an overabundance of milk. Such
neglect has often laid the foundation for
tubercular diseases in children and mothers.
farmacous liquids to tuberculous children, whilst still taking the breast. It sometimes
happens that a child requires to be weaned as early as 5 months; the milk should be
substituted by something farmacous food, such as milk or simple food sweetened with cow
milk, diluted with water, and if you find it
turn acid you may add a little lime water.
A pill to the pint of milk or more at the
lase may be and a little sugar to sweeten it.

After the period of lactation is over, the next
period to be looked after is that of teething,
which is a dangerous one inasmuch as the
tubercular disease then begins to show
itself under the form of the infantile teething
fever: at this time you must be particular
ly careful and attentive to improve the
general health of the child.

What you have to dread is not pulmonary
tuberculosis but the state of the general sys-
tem: the state of the brain must not be
overlooked as the nervous system is at this
period a great guide of whether the disease
is about to establish itself in any par-
ticular organ.
Let me here remark that the practice of early administering cod-liver oil to children of weak habit and suspected tubercular predisposition has been attended with beneficial results, almost miraculous, and should certainly not be neglected by any parent sensible of the weak constitution of her child.

After the age of five years you may consider the child safe and the next period you have to fear is the Period of Puberty. As I before stated it is at this period that the effects of the tubercular constitution begin to manifest themselves by the deposition of a calcareous material in an organ essential to life viz. the lung, and when the symptoms of pulmonary tuberculous first begin to show themselves in the individual who has hitherto lived under the predisposition not yet eradicated from his system. And the most careful attention must necessarily be adopted at this period to arrest the disease and prevent its development under that most fatal aspect. It must be held in mind you have no chalazis to treat, the danger of which is its evolution.
at the period of development of the body.

The hygiene of the schoolroom is unfortunate by very much neglected. The age at which boys and girls are generally at school is, notwithstanding a critical age, very much accelerated, and it would be well if parents were much oftener reminded of the effect which the system, carried on to universally in girls' board day schools in this country, has in breaking down the constitution, and laying the foundation of constitutional diseases to which we see so many young females the victims.

I allude to the constant practice of rising early at six in the morning, beginning tasks immediately, walking out only for an hour or two a day and then under the restraint of the governors, whose duty it is to see that they walk orderly, and not break the rules of fashion by giving want to their youthful inclinations by active exercise and muscular exertion: thus deprived of the pleasures which Providence has given us they are again compelled to return to their books, work and other sedentary occupations, the consequence of which is habits of listlessness.
ills, depression of spirits, indigestion, and the development in a predisposed individual of pulmonary tuberculosis.

Statistics have proved the necessity of exercise by the large proportion of individuals whose employment is sedentary in factories or becoming affected with phthisis, and the small proportion of those breathing the same air but whose habits of life differ only in active bodily exercise becoming so affected.

The same may be said of boy's schools: instead of finding school a source of health and comfort, it turns out to be a drain upon the human energy by the hardwork imposed and enforced by its rules, and a source of undue mischief to the constitution. If such matters were more attended to, much much consideration given to the physical as well as to the mental training of a schoolboy ample good would result and much evil would be avoided. If boys were kept thoroughly employed with what they ought to do they would not do what they ought not to do. When you find a boy careless ever
a class you may be certain that he has no
cattle for the subject and it ought to be changed.
 Masturbation is a vice common amongst school-
boys and it is a source of much want of
energy, weakness, languor, and very frequent-
ly lays the seeds of phthisical disease.
The true cure for these bad habits is undoubt-
edly a proportionate amount of mental and
physical employment regulated according
to the mental capacity and intellectual
capacity of the individual.
At the period of puberty you are to guard
against the abuse of a newly developed
sexual function and the boy or girl must
be well looked after: the corporeal character
and mental development must be well
watched and mental stimuli applied to
keep him constantly employed with true
things for which he has a decided taste.
Too much indulgence should not be given
to a tuberculous boy or girl: on the contrary
the necessity to turn himself to exercise
should be not only strongly urged but strictly
enforced. Hot and cold parties and
all kinds of exercises should be avoided.
whilst intercourse with agreeable society and the enjoyment of social amusements should be duly encouraged.

At the period of puberty an a tuberculosis individual you will also pay particular attention to any chest symptoms which may manifest themselves, inflammatory affections and especially cough will have to be treated actively as soon as complaints are made by your patient.

Cough of which there are different varieties is an important symptom. The mucus is constantly thrown off by the air passages is brought up by the lining of the trachea and is then quietly over the larynx into the esophagus by which it is conveyed into the stomach, but when the larynx is irritable then cough is induced and as the larynx is almost more or less irritable at the period of puberty one often have more or less cough at this period.

This cough is apt to give rise to suspicion in the minds of the friends of an individual who is supposed to be tubercular whereas it does not result from any material change taking
place in the lung or hemodi. At the same time
if much attention is directed to this symptom,
and sensible districts of mind concerned in sense
of space, the cough will increase and emaciation
may follow, making the patient actually believe
that he has phthisis.
A positive assurance of the absence of phthisis
from the medical man has been often known
completely to cure the affected patient.
By relieving the mind you will do more than you
can with all the drugs of the pharmacopoeia.
This much for the treatment of the tuberculosis
frequently noted. I pass on to
the treatment of tuberculosis when the nutrition has
began to undergo stranguent and when tubercle is in
state of deflection, and the disease known by the
name of pulmonary tuberculosis had become overt.
This period at which this actually takes
place is, as have already stated, at the period of
puberty.
It is mostly always at this period, after the
period of puberty, that a change of climate is
recommended to the tuberculous individual,
as it is now that the feelings of the patient
begin to predilect something wrong with the
Constitution referable principally to disease in the pulmonary organs; and I here propose to treat of the subject of climate with its various climates, exercise, and diet to which I shall devote the third part of my paper.

III. Climate.

The points to be considered under this head are:

A. The prevalence of tuberculosis in one country more than in another.

B. The circumstances connected with climate which affect the prevalence of tuberculosis.

C. Is the alleviation or cure of tuberculosis under the influence of climate?

D. In what manner may climate be made subservient to the relief of tuberculosis?

   a. Exercise.

   b. Diet.

E. The best climates which may be recommended as residences for tuberculous patients.

A. The prevalence of tuberculosis in one country more than in another.

There can be no questioning that tuberculosis is more frequent in some countries than it is
in others. As it is interesting to observe the relation between its prevalence and certain latitudes I shall give a short sketch of the geography of tuberculosis which I have abstracted from Mr. Allport's admirable treatise on tuberculosis.

In what is meteorologically considered the Frozen climate, comprising Greenland, Spitzbergen, Russian America, most northern part of the continent of North America tuberculosis is very rare.

In the Cold Climate, with a mean annual temperature between 30° and 40° comprising Iceland, northern districts of Sweden, Norway, and Lapland tuberculosis is comparatively rare. In northern Russia—excluding St. Peterburg and Arkhangelsk—with a mean annual temperature of 30° to 40° tuberculosis is very common, but pulmonary tuberculosis exceedingly rare.

Warm Climate, with a mean annual temperature from 70° to 80° comprises a vast extent of country including South Africa, the greater part of South America, nearly the whole of Africa, all the countries and islands constituting the southern parts of Asia, and southern
more than the northern half of Australia, and in this region tuberculosis is, as in the case of colder countries, also rare compared with temperate climates.

Egypt it found to be almost entirely free from tuberculosis, but it may be produced here as elsewhere by antisyphic influences, as observed by Mr. Kaye, who found it existing in these children who lived in badly ventilated huts and in bed die on the banks of the Nile. In Syria, Tunis, Algiers, and the Barbary coast, it has also been found to be very rare.

The climate of the western coast of Africa, notwithstanding its extreme humidity and sudden transitions from heat to cold, is very free from tuberculosis, which fact is inferred from its infrequency amongst our troops in that part of the world.

In St. Helena also the mortality from consumption is very small, not exceeding 3.2 per 1000 annually. In British Guiana also a country noted for its uniform temperature, lacticular consumption is unknown amongst the natives.
Thus we see that in the warm and tropical regions of the western part of the eastern hemisphere, tuberculosis is a very rare disease; which would lead us to suppose that in warm temperature it antagonistics to tubercular disease. But we find many countries which possess the same range of temperature as those already mentioned but which are not by any means so immune from tuberculous; proving that it is more than in certain temperature that renders a climate favourable to the disease.

In the Mauritius we find from our Army records that more men are attacked with consumption there than in the United Kingdom, the Mediterranean or America.

Many statistics have been drawn up to show the prevalence of tuberculosis in the East Indies, and the general conclusion arrived at is, that the occurrence of the disease in any of its forms is extremely rare among our troops all over the East Indies; not more than one case of consumption being reported per 10,000 men annually.

In Ceylon, although on the whole as mild
and equable climate the cases of consumption in the army are found to be very large.

In the West Indies we find tuberculosis much more frequent than in the East, judging from the mortality from it amongst troops. Sufficient data have however not yet been given to enable us to judge of whether the climate is one capable of producing the disease or only favorable to its development: thus we can only know by ascertaining its prevalence among the natives.

Thus we find that extremes of heat and cold are unfavorable to the production and development of tuberculosis: let us turn to the temperate zones where we find the highest grades of civilization, the most complicated relations of society, the greatest differences of climate and the greatest amount of tuberculosis.

**Temperate Climate.** The mean annual temperature extending from 30° to 70°.

Both the north and south latitudes contain, within this range, we have been seen to be comparatively free from tuberculosis.
"In the central latitude of this region including England, France, Germany, Spain, Portugal, Italy, the northern shores and Archipelago of the Mediterranean, and the sections of India, Bohemia, and North America, included within this range, it is the most universal cause of the deterioration of the human species, and of premature decay and death, although varying greatly in degree in different countries and localities. In Denmark and Sweden the disease is rare.

In Canada, an extremely cold and variable climate, as regards temperature, but with a clear and dry atmosphere, sterility and delirium appear to be comparatively very rare indeed.

The region of country extending between the isothermals lines of 46° and 63° or 70° seems to be the most favorable one for the production and development of phthisis; statistics proving that from about one-fourth to one-twelfth of those who die annually of disease in these countries included within this range are destroyed by phlis.
worrying tuberculosis.
The proportion of deaths from phthisis in London is estimated at 1 to 8.5 deaths from all causes, and as 1 to 305:7 of the population or the number of individuals living.
In France, Belgium, and Holland tubercular diseases are exceedingly common; in fact they appear from statistics to be more prevalent there than in England.
The deaths from phthisis in Paris are stated to be 1 in 3.25 deaths; in Marseille 1 in 4.
In Germany the disease is as frequent as in England and France. In Berlin its prevalence among children has been attributed mainly to bad diet, impure air, and hereditary transmission.
Tuberculosis disease is almost as frequent in the southern regions of temperate climates in Spain throughout it is a common cause of death. In Madrid and Gibraltar it is also frequent. In Malta 1.5 per 1000 of the whole population die annually of diseases of the lung, according to Colonel Talboys. The calculation must likely have been made in
cluding the military and English inhabitants of the place: judging from statistics which I saw just before leaving the Island, (though amongst the natives it is a much rarer disease than this statement would lead one to suppose.)

Dr. Spencer Wells of the Malta Royal Naval Hospital reports that of 51 deaths out of 813 patients in the Hospital 19 or one-third were from phthisis. (These were probably all women who were previously predisposed or who had acquired the tendency through intemperance or other antithygienic causes.)

In Greece and Turkey phthisis is very common. In Italy it is as common as in France. In Naples 1 death in 8 is due to be produced by phthisis.

It is a curious fact that in many parts of Italy, as in the Tuscan province, where malaria exists and is a cause of much sickness and mortality amongst the inhabitants, phthisis is very rarely met with: the presence of this fever seemingly counteracting any tendency to the prevalence of tubercular disease.
The following has been given as the ratio of deaths from pulmonary tuberculosis to the whole deaths in the civil and military hospitals in Italy and France.

Leghorn  Civil and Military 1 in 10.75
Florence  Civil 1 in 11.5
Rome 1 in 3.4
Naples Average of 3 Hospitals 1 in 2.33:
Military 1 in 3.85

Paris Civil 1 in 3.25:
Military 1 in 12.2

The countries in the southern part of the temperate climate just mentioned, let it be borne in mind, are those to which tuberculous invalids are recommended in search of health, as this fact will go a good way in proving that it is not any climate alone which will alleviate or arrest a phthisis once commenced.

As to the prevalence of tubercular disease amongst the natives of Madeira, authors vary much in opinion: some declare it to be comparatively rare, others stating that no
In nearly all countries the disease is more frequent than the intestine. It is very clear that it does exist to some extent amongst the natives judging from the writings of most authors on the subject. In American tubercular disease carries off a large proportion of the population but the number is not so great as in some countries in Europe.

In the countries of the south temperate zone comprising the southern part of South America, the Cape of Good Hope with a portion of South Africa, nearly the southern half of Australia, Van Diemen's land, and New Zealand tuberculosus seems to be less prevalent than in those countries corresponding to the same latitude in the northern temperate zone, although it may be produced by its ordinary inducing causes in those parts.

From the preceding statements regarding the geography of tuberculosis it is very evident that there is not a country from which tubercular disease can be said to be totally by abstract, we have seen that some countries are more subject to it than others, that the
countries in which it prevails most are those in which civilization seems to be carried to the greatest extent and that these countries are situated in what is meteorologically considered the temperate zone; extremes of heat and cold being unfavorable to its production and development.

Let us now consider

B. The circumstances connected with climate which affect the prevalence of tuberculosis. Our statistics upon which we found the prevalence of tubercular disease in Asia and Africa are chiefly taken from Army reports. As the only statistics we possess they are certainly very valuable, but as they allude only to the development of the disease in men who, living in a foreign country and perhaps an unhealthy climate, labour under anxiety, grief caused favourable to its production, they cannot be taken as a criterion of the prevalence of the disease among the natives and of the influence of climate especially.

There are many colonies as British Guiana in which tubercular disease is as prevalent
amongst the British troops, both white and black, as in almost any other part of the globe, although it is very seldom met with amongst the natives which shows that the immunity of the Asiatic population from the disease here as in other localities is no guarantee against its occurrence under special antipyreic circumstances, as for instance, army discipline in an unhealthy climate. These same natives of Guiana, so immune as they are from pulmonary tuberculosis in their own country, are known to fall victims to the disease when transplanted to any other region of the globe, and this seems to be different climate has been shown by statistics to result in, not only the development of the disease, but even to acquirement among British troops.

Troops accustomed to different climates are subject to the same hardships as they are in their own country immediately on their arrival, and before their constitutions have had time to accustom themselves to the change: the consequence is derangement
of the health and particularly of the intestinal functions and the development of pulmonary
by tuberculosis in those previously disposed to the disease.
This same susceptibility to tuberculous disease in those removed to climate, unaccustomed

to them is observed in the Blacks as well as the Whites. Africans transported to

ewer and previously free from tubercular

disease take the disease and die; even in
Egyptian places are known to be cut down
by the disease.

Natives Indian troops who are obliged to leave
their country and change their mode of
living to that of the British soldier become
affected with tuberculosis and fall victims
to its ravages.
It is well known that animals brought
from both warm and cold climates to the
menageries and zoological gardens of Lon-
don, Paris and Calcutta die of pulmonary

tuberculosis.

All these facts tend to prove the influence
of Insipience Cannot one the production of
Rheumatisms and the necessity for treating
Plutonic patients according to hygienic rules, guided by the habits and accustomed mode of living of the individual.

It matters not whether the change be made from a cold to a warm climate, or from a warm to a cold climate: any change which is unnatural to an individual and which endangers the health of that individual, is productive of disease in him, and if he be of the tuberculous predisposition, sarcinosis in tuberculosiwill inevitably in time result.

Therefore let us bear in mind, that climate in itself, has neither the power of producing or alleviating the disease; as the same climate may be effective of different results either according as it disagrees or agrees with the individual; and under similar antihygienic influences, the disease is equally liable to occur in all climates. Change of climate, attended with one or more antihygienic influences, is therefore one of the circumstances, and perhaps the principal one, which affects the prevalence of tuberculosi in a country.
But tuberculosis may be produced in individuals who are not subject to change of climate, but also, living in their own native country, subject themselves to antihygic influence, as is the case in Egypt, which is perhaps the only country which may be considered almost immune, and where children living in ill-ventilated huts and on bad and insufficient food are known to take the disease and fall victims to leprosaria and tuberculosis.

Sweats of any kind are capable of producing tubercles in individuals, which is borne out by the number of soldiers taking the disease in West Indies by exposure to night air and intemperance, whereas the officers who take better care of themselves are to a great extent exempt.

Tubercular disease is not influenced by season, but it takes certain more fatal forms in different seasons. Thus tuberculosis is more commonly fatal in the autumnal season at the time that diarrhoea and dysentery prevail, which are generally the terminations of tuberculous infection. Pulmonary tuberculosis is more fatal in
winter and spring when cold and changeable weather prevail.

The pressure, temperature, and explosive state of the atmosphere are admitted to have some

ingning influence on the invincibility of phthisis. Statistics by Bradler of Berlin appear
to prove that a certain degree of humidity in
the atmosphere diminishes the tendency to
death from phthisis.

It seems to be one of the circumstances which
influences the prevalence of tuberculosis in
connection with climate, at least if we can
judge from the fact that in the northern
regions where the inhabitants are carnivorous
beaver, fish, and seals, and in the tropi-
cal regions where the inhabitants are foric
permits living on fruits and vegetables taken
wider diseases are very rare; and in the
temperate regions and in those parts of the
tropical regions where the individuals live
on a mixture of animal and vegetable diet
they are most prevalent.

Thus it is evident that in connection
with climate the following circumstances
must be taken into consideration viz.
temperature, humidity, variability, density, and other properties of the atmosphere, the soil, food, modes of life, customs, occupations, temperament, and races of the inhabitants, and that, unless these particular influences are taken into account, statistics are of little or no avail in determining the relation between climate and pulmonary diseases.

E. Is the alleviation or cure of tuberculosis under the influence of climate?

From what has been stated already as regards the nature of pulmonary tuberculosis, it will be obvious that mere change from one climate to another can be attended by very little benefit in the treatment of pulmonary tuberculosis; on the contrary, we have seen that it is a prevalent and fatal disease in all climates and among all nations and our attention should be chiefly directed, not to a state which is unchangeable by climate or any other means, but to the prevention and cure of the debilitated state of health which constitutes the essential element of consumption.

In recommending any change of climate
We must acquaint ourselves with the idiosyncrasies of the patient, which differ much. Weak patients differ for more in their idiosyncrasies that strong individuals, and plethoric disease is found to invade all idiosyncrasies and temperaments. You will find some patients recommended by heat: some by cold. Some by extremes of both.

We should keep in mind the peculiar idiosyncrasies of the patient, and we shall generally find that almost all persons in tubercular diseases cannot bear extremes of heat and cold, and therefore want of proper accommodation is the cause of much mischief to them.

We continually hear of cases of consumption being cured by removal to a warm climate, and the cure is solely attributed to the specific curative power of the climate, whereas it is the new conditions under which the patient is placed and the dissipating effects which change of scene necessarily involves that must be looked to have the greatest share in bringing about restoration to health. Few voyages are often found to improve the
health of a regiment of troops, as almost to arrest tuberculosis in some individuals. By a
long sea voyage the state of health of a later
lunar individual becomes so improved that
on landing at his destination he is quite a
different person, and if it is a warm climate
that he has arrived at, he is so much strength-
ened, that the heat of the climate which would,
had he not had the benefit of the sea voyage,
have been too oppressive for him becomes not
only bearable but rather enjoyable by him.
Enabling him to take exercise and expose
himself to the open air to such a degree as
to tend to the preservation and improvement
of his health.
Change of scene, by acting pleasantly on the
mind of an invalid, and the impressions made
upon it by the beautiful landscapes, clean air,
fresh air, the characteristic features
of the Mediterranean may also be said to have
a vast influence over the improvements to often
observed in a tuberculous individual by change
of climate.
The disadvantages which this climate presents
to the invalid are all referable to the climate.
of the weather preventing invalids from taking the requisite amount of exercise for the proper digestion of the food and the execution of all the functions of secretion and excretion.

Many consumptive patients take cold immediately by exposing themselves to a cold wind, as the east, and thus aggravate their complaint. Others are equally exposed whilst in damp weather. How at this country it for a very short time only in the year, except from either of these atmospheric conditions it does not permit of the patient taking the daily exercise which his system requires.

In Britain and the south of Europe, as I shall hereafter point out, the wildness of the climate permits of the patients enjoying the fresh air throughout nearly the whole year and it is for this great advantage that these climates are recommended to invalids.

Now if this be the only difference between the climate of Britain and that of the south of Europe why may we not, as Dr. Bennett suggests, continue to enable our Splintarian patients to live in an artificial climate so here they can breathe pure and air without subjecting
themselves to cold blasts of wind. Confinement to a warm room during the winter months would effect our purpose inwards was allotted to concern. But what we want is some healthy locality, where the patient may take exercise, meet his or her friends, and, surrounded by vegetation and pleasing scenery, may pass their time agreeably and in a state of moderate heat. Pleasant exhibition to conclude to the improvement and maintenance of health. Such an advantage will be as doubt derived from the New Hospital Place at Epsom, which will combine extensive grounds for exercise, mild atmosphere, shelter from cold winds, vegetation, inconsiderable pleasing lights, and a close vicinity to the metropolis.

There is no doubt sooner that immediate removal from this country to Madrid, Egypt, or Martin of an individual in whom the disease is newly developed, and who can well afford to travel without any anxiety to disturb their but quiescence has often effectually cured many and many phthisical patients and it is for such only that this step would be recommended.
The cannot help being struck, in walking through the Protestant Burial grounds on the Continent, to observe the numbers of young men and women who had been expatriated for the purpose of seeking that health which was never to be regained in foreign climates any more than it was to have been regained at home and had fallen victims to the disease away from their friends and perhaps some time if they had remained at home and with their families.

I was whilst residing in Malta intimately acquainted with a young man who came out on his way to the hile where he suspected containing: he was in the very last stage of consumption; had immense cavities in both lungs; had lost his voice through intercalated elevation of the larynx, and had experienced repeated attacks of dysentery; notwithstanding this deplorable condition, his friends wished him to try the hile, as they had heard much of its virtues in curing consumption. The consequence of his expatriation was that he was buried on the banks of the hile, 400 miles up the river by his family who had the utmost
difficulty in obtaining leave to become a Christian in Moorish countries, and would not have attained their object had they not fallen in with a Jesuit convent whose sisters afforded them every assistance they required. This is only one case out of hundreds of unfortunate individuals who share the same fate and to which the folly of recommending removal from home is very evident.

Individuals affected with meridian fever, somewhat advanced tuberculoses, but with sufficient strength to take good exercise and sedentarily to enjoy the pleasures of a foreign climate are undoubtedly benefited by removal to a warm country, during the cold variable seasons of the year; and it is for cases of this nature that we shall proceed to address.

D. In what manner climate may be made subservient to the relief of tuberculoses.

In the first place, you will recommend only those patients to foreign countries who have sufficient amount of innate force in them to enable them to overcome the fatigues of travelling, who are strong enough to stand the mental
excitement which travelling in a foreign country necessarily involves, and the exercise which should be daily taken and which constitutes so essential a part of the duties which the patient should consider incumbent on him to perform for the attainment of his object, recovery of health. Furthermore, it is necessary that the patient should have some hope of recovering himself as he is certain to fall a victim to mental despondency, if this is not the case, which will effectually retard his improvement. The mind being in a peculiar state and free from anxiety, two important hygienic regulations should be duly attended, as most essential to the recovery of the digestive acts, respiration, assimilation, perspiration, secretion, and excretion, by the physiological individual seeking health in foreign climates viz.: Exercise and Diet.

a. Exercise. As I before stated, one of the great advantages which removal to a mild climate secures is the possibility of taking exercise, which must be moderate and in proportion to the physical strength of the individual.
Exercise acts by effecting the proper working of the nutritive functions and thus increases the strength. Great caution must be had in regulating the amount of exercise of lunatic subjects, as, if the vital force is exhausted by too much fatigue, the opposite effect to that of cure is produced, and more harm than good results.

The amount of exercise should be regulated by the patient's own feelings and it should always be suspended when he complains of feeling fatigued after a good nights rest.

There is always more or less tendency to both mental and bodily inertia in interminous subjects: this should be counteracted by urging the patient to the necessity of walking for a short distance at least every day and he should never be indulged in sleeping in the house when the weather is fine.

Elbow object for walking should always offer itself to be held in mind when the patient.

The pursuit of natural history in the shape of collecting shells, seaweed, insects etc. ought always be encouraged when you see your patient has a taste for these studies.
Nothing is in my opinion more beneficial
to the invalid who is strong enough to do it
than a good walk in the morning, after breakfast,
first, in a mild climate such as Matta is
in the winter, along the seashore, where both
his mind and his body may be occupied by
collecting shells, seaweeds and other marine
productions with which the shores abound,
for a considerable part of the day without
fatigue. Natural History has much to
recommend it as a study for invalids: it com-
bines outdoor recreation with indoor amuse-
ment and interesting mental employment,
and a person can in no better manner spend
his evenings, than in arranging, classifying,
and setting out the products of this morning
walk in such a manner as will recall to
his mind the pleasant circumstances under
which those objects were collected, and which
he ought look upon as the indirect instru-
ments of his recovery.

Overfatigue must by all means be guarded
against on such injury to the constitution
has resulted from even one day's abuse of exer-
cise. Above all things, fatigue must be en-
tirely avoided if the patient feels exhausted by being fasting.

Hence exercise or short exercise may often be
recommended to patients who can stand the
fatigue and with benefit to them, but the
same rule applies here as in walking, the patient
being thought to regulate the exercise of each
day by the effect of that taken on the preceding
day, the effect being estimated not alone by
the fatigue produced but by the state of the
patient after rest.

For those who cannot bear the fatigue of
walking or riding, carriage exercise is preferable
although this ought to be alternated with a
little walking.

Gymnastic exercises are often very beneficial,
for young persons especially and should be had
accorded to by all who can use them without
exhausting their strength.

4. Diet. Rigid and severe regulation of the diet
is not favorable to the improvement of patients,
but good food, more or less varied in quality and
quantity according to the state of the patient.
It is a bad plan to restrict your patient to
his diet; you should take him into consultation
with you: as regards his tatties and groceries let it be simple and varied as much as possible, but don't let him overload his stomach for the sake of appeasing that little organ the tongue.

Many patients are known to improve on the constituent under the diet of the French cooks and although their dishes are much cried down as injurious to invalids, I believe that they are rather wholesome than otherwise and do harm only when they are eaten in excess, as they are apt to be on account of their being so pleasing to the palate.

As regards the essential constituents required to be introduced into the system of tubercular individuals as food, there can be no doubt that it should contain a due proportion of proteiniform, oleaginous, saccharine and aqueous elements.

A large proportion of animal food abounding in fat appears to be the most nutritive for a phthisical patient and the older meats as Beef and Mutton are decidedly the most useful as being most easily digested. Milk and eggs may also form part of his diet and their administration may
be left to the taste of the patient.
The introduction of a large portion of fatty principles seems to be attended with beneficial results which fact is fully brought out by the vast amount of benefit found to be derived from the daily use of Cod Liver Oil and other nourishing animal oils.
A limited quantity of alcoholic or fermented liquors will be found to strengthen the patient and assist digestion.

Having made up our minds then that our patient will derive benefit by removal to a mild climate, and having given him full directions how to live according to hygienic regulations the next question comes to be, Where are we to send him to? and here we shall consider

E. The best climates which can be recommended as accidents for Tubercular Patients.

No absolute rule can be laid down for the choice of climate in the treatment of tuberculoses as every case should be considered with reference to its own merits.
Some individuals improve in a soft moist air and others in a dry blustering air.
"We may often predicate by the state of his constitution which kind of climate will agree best with the feelings of the patient and his own experience, and close observation of the effects must be acted upon: our curative principle, is "presumption to prescribe air," and to endeavor to select such a locality or such a climate that the patient may be out of doors all the hours of the day and all the days of the year.

Many parts of the south of England are had recourse to as resorts for invalids and with beneficial results. Of these Brighton, Hastings, Isle of Wight, Lympstone, Southampton are the first to be recommended. Palermo, Teneriffe, Sandfish, Exmouth, and Plymouth on the Southwest coast have also their merits as mild climates for insultrical patients.

Various accounts have been published in favor of each of these places as being the most adapted for invalids by local practitioners who naturally upheld their own place of residence as the best.

I have neither time nor space to enter into their
comparative merits but shall forbear to say a few words with regard to foreign climates. Of these the most famed are the East and West Indies, the South of France, Italy, Malta, Madeira and Egypt.

The limits of my paper will not allow of my entering into the consideration of each of these localities as favorable for the residence of phthisical patients.

I shall therefore restrict myself to the last three, Malta, Madeira and Egypt for the reason that I am better acquainted with their merits, the first being my own native place, and having received much information with reference to the last two which were visited by intimate friends of mine for the purpose of improving the tubercular condition under which they laboured.

a. Malta. I shall not enter into the geogra-

phy, geology, or Natural History of the Island at length. These are subjects foreign to my purpose: suffice it to mention that it is situated in the centre of the Mediterranean to the south of Sicily in North Lat. 35° 50' and in East Long. 14° 12'. It is about 60 miles in
circumference, its greatest length being 20 and its greatest breadth 12 miles.

The climate of Malta is very mild and exceedingly equable; the range of temperature during the twenty-four hours seldom exceeding 6°. The range of the thermometer in the course of the year is from 50° to 85° and the medium temperature in the twelve months is never above 70°.

The range of the thermometer during the months of October, November, December, and January, the best ten days of the year for photographic sal-

ids, on the average of 21 years from 1820 to 1840 inclusive, was found by my excellent friend and teacher D. S. Gardener to be as follows:

<table>
<thead>
<tr>
<th></th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>81</td>
<td>73</td>
<td>65</td>
<td>63</td>
</tr>
<tr>
<td>Minimum</td>
<td>63</td>
<td>57</td>
<td>52</td>
<td>46</td>
</tr>
<tr>
<td>Medium</td>
<td>72</td>
<td>65</td>
<td>58</td>
<td>57</td>
</tr>
</tbody>
</table>

Rain falls principally in Spring and Autumn when it comes down very heavily and lasts sometimes for several days. There is occasionally hail but never snow.
In the summer we have heavy falls of dew but fog is rare. The following is on an average the kind of weather which you may expect throughout the year in Malta.

The eight temperate or winter months:

October: Autumnal rains cease and fine weather sets in.

November: Weather delightful, air dry, bracing and clear, occasional gales of wind particularly the gregale or north-east wind.

December: Pretty nearly the same sort of weather as November. Rain falls rather oftener towards the end of this month.

January: Fine until the middle when the weather becomes unsettled, and strong winds begin to prevail.

February: Strong gregale or north-east winds usually prevail: weather boisterous.

March: Variable showers with intervals of bright sunshiny days.

April: Spring flowers come. Warm weather begins to set in, of a genial character and not tending to depress.
Four summer months

June. Heat begins to be excessive. Scarcely a cloud to be seen. Vegetation in consequence almost burnt up.

July. Heat very oppressive. The hot, humid and disagreeable sound of voices blowing from the south-east and coming from the coast of Africa prevails.

Towards the middle of September the continuous rains set in which last until the middle of October.

From the preceding statement it will be observed that the best season for invalids to return to Malta is towards the latter end of October, which time is also quite safe for making voyages in the Mediterranean. Until the end of January patients may consider it quite safe to remain in Malta, partaking daily of exercise and enjoying the delightful weather which prevails here most throughout the whole of those months.

Every few days will have to be spent in the house in consequence of heavy weather as this very seldom occurs at this
The invalid who can afford it has every accommodation he can think of in the way of food, comfortable rooms, airy and at the same time free from draughts: the floors of stone are thinly carpeted and every room, in both hotels and dwelling houses, is supplied with fires and every English comfort.

The beautiful drives and walks are a great inducement to the invalid to take exercise, the roads being kept in the most perfect repair by the British Government.

The village of Sheerness, a mile from town and situated on the sea shore is a most delightful locality for a residence for Invalided Patients. The numerous bays and sandy beaches which abound in its neighbourhods afford ample scope for the pursuits of Natural History to the invalid, who is fortunate enough to possess the taste for the subject and who has the strength enough to pursue the healthy recreation of collecting specimens on the sea shore.

It would be advisable for such invalids as are far from strong and susceptible to
cold and damp to leave Malta towards the end of January and go to Naples for the remainder of the winter proceeding to Rome for the spring. But with proper care almost any invalid who is able to enjoy the fine winter months in Malta can venture to stay the February and March to benefit by the return of fine weather which usually sets in towards the end of March or beginning of April. He may then remain until the end of May, or beginning of June, when the heat begins to be oppressive and affect both body and mind with a degree of languor and insensibility, which, if long continued, would to debilitate the constitution as to endanger the health and to defeat what has been the great object which the patient has had in view, viz: recovery of health, and what he has luttered to obtain, totally accomplished by his residence in the salutary Climate of Malta.

I would say more about Malta as a resort for invalids of all kinds and to grace sour but I hope that the foregoing remarks will suffice to prove that it is quite as eligible
a resort for invalids, particularly phthisical patients, as any other locality in the Mediterranean.

M. Madiera. This island situated in the Atlantic ocean has long been held in high estimation as a favorable place of residence for phthisical patients.

The capital, Funchal, possessed of a mean annual temperature of 68° had many good qualities in it:—the winter is very mild; the summer cool; the quality of the climate remarkably equalizable by night and by day as well as throughout the year; the annual range of atmospheric pressure small.

The air although dry is near the point of saturation and this atmospheric condition renders the quality of the climate so soothing. It is almost free from cold weds and the temperate state of the atmosphere is maintained by sea and land breezes and northerly winds; with neither brook nor stream to impair the purity of the atmosphere. The days are clear and the soil is dry.

With all these advantages Madiera is justly considered the most beneficial climate for...
invalid: it is not however which may prevent consumption from returning but it had no more specific curative power for consumption than any other country.

It is not the climate which benefits those who leave Madeira cured of phthisis but the change of habits which produces the benefit. Many have gone out there under equally propitious circumstances: some of those have cautiously sought the means of regaining health by taking as much exercise as they can comfortably bear in the open air, by attention to their diet and by keeping regular hours; and these have returned home with their health comparatively restored. Others have fallen into accustomed habits and irregularities and have not only received no benefit but their disease has increased even more rapidly than if they had remained at home.

Funchal is rather to pay a visit for those disposed toardy and unfortunately a great many going out there sacrifice their health for the sake of gratifying their worldly inclinations.

The best time for going out to Madeira to face the winter is October; I do recommend the long
was also to be pulled there. But a change by returning to England about the middle or end
of June it found to improve most remarkably two
cerebral cases.

C. Egypt. Egypt as I have before stated is one of the only countries which may be considered to be almost immune from phthisis; but however I have tried to show is not the ground upon which it is recommended as a retreat for
mixed cases. We recommend Egypt to the phthisic
cal patient, whom we judge get to be benefitted by removal to a warm climate, on account
of its fan stimulating, any climate in point
of warmth, dryness, and steadiness of temper
ature throughout the winter, the air is dry
and elastic, the sky bright and cloudless
the atmosphere pure, transparent and exhilarating; there is little rain, no frost or snow,
and dew is seldom seen. Here is one remarka
ble feature which constitutes a great resort in
the climate of Upper Egypt, and that is the
sudden fall of temperature which invariably
occurs during the night and which is apt
to do much injury to the constitution of the river
kid who inadvertently exposed himself to the
night air. The air rendered almost oppressively heavy by the heating effects of the sun during the day, is so reduced in temperature after sundown and especially before sunrise as to render it necessary that those who are obliged to be out in the open air should put on their winter clothing.

The chilling effects which this change produces should be carefully avoided by the invalid as very dangerous to the constitution. An invalid going out to Egypt should fully provide himself with every necessary and comfort which he may require. Air-bed, cushions, warm blankets, a good supply of medicines and a large stock of preserved and provisioned meats which are prepared to extensively now in this country, especially for the use of invalids.

He should reach Alexandria by the middle of October, where he should purchase what he will find on inquiry he cannot get in Cairo and without delays let him start hence in a river steamer and with dispatch, not in a sailing boat, as the Delta is unhealthy.
Arrived at Cairo he should be careful not to expose himself to the night airs at the midsummer season, but when these prevail he should keep the house.

He will then make preparations for ending up the Nile by providing himself with a boat which he can obtain with a captain and crew for between £30 and £60 a month, these being the only habitations to be found after leaving Cairo. Once on board, if he be not ready to proceed immediately, he should come from the banks side of the river to Bleeding Island, where the mornings and evenings are cleaner and consequently more healthy.

Care should be taken that the boat is one free from draughts, and that the windows are well to as to prevent the entrance of the cold chilly night air into his berth whilst he is asleep. A pot or bread for the supply of which is indispensable to the invalid as the buffalos milk, alone to be got on the banks, is too strong for delicate stomachs.

Thus provided he should leave Cairo for Upper Egypt before the end of November; the further he proceeds the drier and wilder the
Climate--Seasons.
There will be no occasion to hurry on to Hellespont, as he will be quite in time, if he arrives there by the middle or end of December.
During his residence on the Nile he should if possible rise early, say 7, breakfast at 8, and then rally out for a walk: if he is a sportsman he will find ample scope for the exercise of his gun: but he must be strictly cautioned against the danger of over-fatigue, which is very apt to occur when the mind is distracted from a state of nervousness by the excitement of sporting.
He should return to his boat as soon as the sun's rays begin to be powerful, and he should not venture out if the wind is high and the weather dry, as clouds of sand are apt to arise and cause injuries to the lungs.
Under these directions and by proper attention, a tubercular individual will find his health rapidly improve. In Egypt, if he is strong enough to take plenty of exercise, if he can take his food with a good appetite, if he guards himself against the night air, fog, and dew by retiring to his cabin at eight--
fall and covering himself well up with blankets and warm clothing.

To an individual who is not able to effect this mode of living, the hole is very tedious and uncomfortable and tends rather to depress them to elevate the feelings of a patient. Many insane, lunatic, and insensible individuals can be provoked by the incessant stench, the smell of urine, and the perpetual stench to which the atmosphere abounds, and is the inapparent smell of the dried hole which constantly rises and has to be endured by the unfortunate individuals who are keeping the desks for attendants.

The invalid should leave Egypt about the end of March or beginning of April; he should then proceed to Syria, Constantinople, Greece, and Malta, whence he may return by sea to England about the end of June. Thus the climate of Egypt is admirably adapted to that class of invalids, suffering more from disordered health than actual disease, and not to decline as to be injured by the inconveniences and mode of life to which they would be subjected during
a winter in Upper Egypt.

"The invalid for whose case the climate of Egypt is suited, if he can give up nine or ten months for the recovery of his health, may enjoy the advantage of successive changes of the quiet climates during the whole period of his absence and it would be difficult (as Sir James Clarke rightly remarks) to imagine any measure more calculated to restore the drooping health or invigorate the enfeebled constitution of the clubs of persons referred to, than such an extended and varied tour in a succession of brilliant climates, and through countries and amid scenes of such surpassing interest."

Finis.

John Vernon Geddes.

March 30th 1854
Edinburgh.