Presented for Competition for the University Prize by Dr. Smith
May 1833
On the Influence of Climate on Diseases

Thesis submitted to the Medical Faculty of the University of Edinburgh by David Milroy, Candidate for the Degree of Doctor in Medicine.
I have preferred adopting the title "On the Influence of Climate on Diseases," to using the last word in the singular number, and have treated of this subject as it affects particular diseases, classifying these, as long as convenient, according to the systems to which they belong and not, as is generally done, describing the prevailing diseases of different countries. I have, however, been obliged to adopt this method to a slight degree, when describing the most remarkable endemic diseases.

The source to which I am indebted for the most valuable, because the most trustworthy, data, is the Statistical Reports of the sick, invalids, and invaliding, among Her Majesty's Forces, but as I have been unable to procure the concluding Reports, and have only lately obtained that for Bengal, the Tenasserim Provinces and Burmah, they are not so extensive as I could have wished.

I have, however, in some cases, embraced, from other sources, to make up for this deficiency, but I have avoided going to this incompleteness, attempting to make any deductions, which I have not strong reason for believing were based upon facts of universal cognizance.
inve. In not doing so, also, I was determined by
finding that this Theses has run on to a greater
length than is customary, for this I must apolo-
gize, merely stating, that the extent of the subject
and the fact of some parts of it, which are phase
last, being written extant, and the want of suf-
ficient time, since I have been able to obtain
proper information to condense may partly,
explain this defect.

The shall treat of the subject in this way:
The agents by which Climate produces its effects
upon the body. 1. Heat page 2 as far as page 7;
2. Cold 6-15 Moisture 12-17 Electricity 17-19

Physical circumstances modifying these. Heat Cold
Lat. 21-25
Position on Earth's surface \{ Long. - 25
Elevation. 25-26

Character of Country. Soil, Trees, Lakes, Rivers, Cultivation,
Presence or Absence of Springs.

Influence of those circumstances on Moisture and
Electricity. 26-28

Sketch of the Principal Climates. 28-34
Influence of Climate on Diseases of Digestive System
and particular affections, 45–63
Respiratory system generally 65–66
Bronchitis 65–67
Pneumonia 67–69
Pneumonia
Petrichor 71–119

Influence of Diseases of Circulatory System: Diphtheria 129–130
Other Diseases: Rheumatism 124–5 Gout 125–126

Diseases of Urinary Organs: Kelentri 124–8
Nephritis 124

Meningitis
Infectious 129–137

Integumentary System, including Pustule 138–141
Nervous System
Ulcer 141–146

Fever, Malaria ++
Plague 162–166
Cholera 166–169

Diseases peculiar to particular districts of particular countries.
Yeast 139–140
Bacterium 179–183
Pellagra 183–190

Other Diseases of the same classes
By the term Climate, in the sense we here use it, we understand those conditions of the atmosphere upon whatever cause they depend, which characterise any district, and which may be supposed to exert a modifying influence upon the several tissues, processes and functions of the living body in health, or may cause, favour or retard the production and course of disease. It will be of advantage to enquire briefly the principal agents, which by their presence in varying proportions contribute to form any Climate.

We shall, at present, confine our remarks to three of these, namely, Temperature, Moisture & Electricity to which we might perhaps add a fourth, Barometrical Pressure, making some remarks upon their action individually on the body, and referring the consideration of the effect of position, elevation & other physical circumstances which produce or modify the effect of these, till we have done so, when we shall explain briefly,
The laws by which their distribution is regulated.

Temperature. Assuming that of the human body under ordinary circumstances to be 98\° Fahrenh., we shall speak first of Heat, which has a tendency to elevate above this amount, and Cold, which has the opposite one to depress it below that.

And first as to the effects of Heat, but we may just state that it is produced in the body by absorption of the heat rays, chiefly radiated into the atmosphere, by the earth, or by chemical processes, such as oxidation, going on within it; this is, however, much influenced by the kind & amount of food used and other circumstances.

The extreme effects of heat applied to a part is to destroy some of the tissue, if, seen in the human body, the result of burns or scalds with some heated solid or liquid, for I do not think that the compound boil, which has been cited as an example, can in reality be regarded as such. We see this effect, however, to a slight degree in the freckles, which form on the skin of some persons or the blistering in that of others, after exposure to a hot sun, though perhaps, the latter may be rather due to inflammation.

When applied to the body generally for some time,
its effect is stimulating, all the functions of the body being excited as their activity, and this lasts for some time after the abstraction of the stimulus, as is well seen in the case of the frequenters of vapour baths, who if accustomed to them (for this seems necessary) can expose their faces for some time to the most intense cold which is experienced in Russia and other countries where they are in common use. The same thing is seen in the resistance of the body when heated and not cooled by perspiration to great cold out of doors. This property seems also to be given by a very long continued exposure to a less degree of heat, for it is mentioned that the rigours of the Russian campaign of 1813 were better withstood by the Spaniards and Italians as well as other nations of the south of Europe than by the French and other Northern nations. The Hindus after their frequent ablutions also expose themselves to far greater cold that could be borne with impunity by Europeans, but with them this may be partly ascribed to custom. Many interesting experiments of this subject have been made by Belon, Bloch, and Werner along with other observers. They found, that if air were dry and in a temperature could support a heat of 112° Fahr., and this for some time after being again placed in the stone at 149° Fah.
Neither man nor the lower animals can support such heat for a long time. A case is on record in which 210° was borne for 20 minutes and bleeder remained for 8 in an atmosphere of from 240° to 260° Fahr. Very high temperature are borne for a long time in the Mercuric vapour baths Dr. Trelall remained for one hour in one at at least from 126° to 136° Fahr. and Acclini states that they may even rise to 167° Fahr.

As might be expected such a temperature produces a great effect on the functions of the body. The pulse is increased in frequency thus in Deleau's experiments, the young man, when left alone as having remained for 20 min. at 210 Fahr., his pulse rose from 74 to 164 per minute. This result is also found to occur in Tropical countries, as for instance, when a ship is in the tropics the pulse of the crew are found to beat several degrees faster than in New England. Schlesche & Beger also found that at an elevated temperature the blood passes through the capillaries unchanged.

The volume of the blood is increased, and the capillaries and other tissues heat themselves, so that the skin & superficial tissues feel tense, while there is a sense of throbbing in the head owing to the greater force of the circulation. According to Dr. Deluc, the capillaries are much increased in capacity. If one is not for a property...
possessed by the body of maintaining its temperature with
in a few degrees of what it is in temperate countries for
Dr. D'Herzy found that in the tropics it only rose from about
20° to 30°, above its ordinary standard, whereas it not for
this circumstance, in many of those experiments, related the
Albuca of the tissues ought have suffered coagulation,
while without it a large portion of the most fertile part
of the earth could not have been inhabited by vertebrate
animals. After the unpleasant symptoms recorded above,
have existed some time the turpid capillaries release themself
by a copious evaporation of moisture, while quickly reduces
the temperature, and restores the balance of the circulation
such to a certain extent bears in warm climates through
the increase in the activity of the function of respiration is
not permanent, owing to its office being to a certain degree
taken by the skin and liver. Owing to the great secretin
of urine from the extensive surface less passes through
the kidneys, and, in general, the bowels are constipated.
Such are the change which occur in the European or his
animal in the tropics, and to a slight extent in a hot summer,
and such an increase of function as might be expected from
a certain amount of danger of change of structure in that
part as the liver and this, and the structure colours
of the integument are in the nature of those regions naturally,
limited for such activity, as is well seen in the skin of the dog.

We might have mentioned that the amount of heat which
man is capable of enduring, depends much upon the dry
or moist nature of the atmosphere, thus we have seen
that a much higher temperature could be endured in the
hot air than in the vapour bath, and in water the effect is
lower by many degrees. We shall speak of the effects of heat when
combined with moisture, when we consider that subject, but
we may here mention that a dry heat, though it is power-
fully stimulating, producing in those newly arrived in hot
countries a feverish state with a quickly feeling all over the
surface analogous to what occurs in a stone, yet when com-
bined with moisture its influence is much less deleterious
for instance, the Madras presidency, though the hottest,
is also the healthiest presidency in India. It is also
remarked that, in the United States, the summers
are not so oppressive as those of this country though a great
deal warmer owing to their great dryness.
Cold: The effects of this agent are varied, and, at first sight, many of them might appear anomalous, but it has long been acknowledged to play an important part in the production of disease, and has been successfully applied for its cure. If we look at its general consequences in this country, we might be tempted to consider it as an enemy to health, for there are few diseases of which it is not regarded as a cause. Moisture, the predisposing or exciting cause of both colds and our hospital reports, lie, very generally, upon it that the patient illness began after exposure to cold air.

We know, however, that a certain amount is required for the proper performance of the functions of the body, and that this is obtained by it yet that degree is not sufficient to preserve them without improvements in Europeans at least, and even the Air also avoids himself of its reviving effects and powers of moderating the terminal heat for a time, in the frequent altitudes prescribed by his religion.

When cold is applied to a part in great extent, its action is destructive, for instance in Canada if the body be laid in winter upon a hear of iron exposed only to doors the skin is blistered, just as if that had been red hot. Applied in less intensity, and for a longer time to a part or the whole body its effects are directly dilating the tissues having constricted. Dr. Williams says that it acts
as a relative to the tissues, by stimulating the vessels to contraction, and thus interfering with their nutrition. Owing to this the sensibility to impressions is lessened or lost in the part; but in the hand for instance the power of feeling pain is preserved when we cannot perceive the form of any surface by the touch, yet even this is greatly destroyed, for perhaps the best local anaesthetic we are acquainted with is the cold produced by ice.

The blood also being driven from the part is forced upon internal organs, and thus may be one reason that, if the constitution be strong, reaction is not long of taking place, the blood flows rapidly through the narrowed capillaries and dilates them, the tissues formerly paled regain their native colour and the nerves announce the restoration of the circulation by the pain produced. So far the reaction is favourable but if the part has had its vitality impaired, if the cold has been too powerful or the reaction too sudden, then the most dangerous consequences may result for the vessels of the part are in the condition they are in at one of the acutest stages of the inflammatory process, while the central circulation is in a state of excitement by the cold obstructing...
When cold is applied to the whole system its effect are upon the whole the same as when applied to a spot but the reaction which occurs is generally beneficial producing a pleasant glow over the surface and not liable to overstep the limits of healthy action. Its effects are well seen in the good produced by the shower bath or sea-bathing. When however, cold air acts upon the body generally, it must also act upon the pulmonary mucous membrane, but to excite respiration which is its effect it is not necessary that it should come in contact with the latter, as that is not done in the shower bath which acts by letting in action the external muscles which move the Thoracic walls. That it is however accomplished partly by the stimulus applied to that membrane appears probable from the manner in which respiration is kept up when the body is kept warm through inaction or in carriage exposed in the open air. Indeed it appears to be necessary for the due performance of respiration in our climate that the body be kept at a sufficient temperature by means of clothing - some day that it be perspiring but by this I suppose they mean the evaporation of moisture at imperceptible vapour.
are from the skin, which always occurs in this condition, if the skin be thus protected, the pulmonary membrane, though more delicate in structure, is able to withstand the effects of cold more intense and longer continued than the cutaneous, for it undergoes considerable increase of temperature in the passage from the mouth to the air cells. It must also be remembered, that the air contains a greater amount of oxygen in a given space than when heated. It seems, however, that considerable expansion must take place before it reaches the lungs, so as not to be much colder than the air entering them in the tropics; that in the latter case, however, the air is somewhat increased in volume, and, in a given quantity contains less oxygen, appears like a from the suffocating feeling experienced on entering a heated room after leaving the cold air, similar to what is experienced by the sacrificial air on high mountains. If the external surface be not thus kept warm, the respiration must be expected, by some, thus producing a great consumption of oxygen, thus a person being if engaged in active bodily exercise, remain for a long time in the lightest clothes, exposed to the cold, without injury. There is however another kind of reaction, in which
part is unexpected and inflamed, but that not the one to which the cold was applied. He stated that this action was very apt to occur in the parts where its vitality have been diminished, or any other cause predisposed to it, accordingly, we often find that the result, say of wet feet is not inflammation there, but in some internal organ, which is weak or predisposed by previous inflammation, or foreign substances, as tubercles, in the lung, or undigested substances in the digestive canal, to take on an inflammatory action. We should expect that this would be most apt to occur after cold applied to the skin generally, but we do not find this to be the case, but that it most frequently results from local cold, in most cases when applied to the feet for when a cold draught falls upon the head or cheek, it most frequently induces a local action such as toothache, neuralgia, erythema, oedema, or disturbance in some other part, about that origin. There is some difference of opinion as to the mode in which the local application causes a similar action in the internal organs. Dr. Alison says the sensation of cold which is expected appears, according to physiological principles, to be the connecting link
between the cause applied externally, and the resultant action which it may excite in the interior of the body, and the more acute, and more lasting, that this sensation is, the greater will be the effects resulting from it." Dr. Williams thinks this does not explain it and calls in question the general occurrence of the last mentioned circumstance.
Moisture

The effects of this agent are principally manifested in modifying those of Heat and Cold, but there are some processes in which it plays the chief part, being only assisted by them, as, for instance, perspiration from the ground, or from decaying animal or vegetable matter is more easily carried about by moisture than by dry air, owing to the solvents power of the latter, especially when combined with the elevated temperature. It likewise increases the density of the atmosphere, which must have some influence in retarding muscular movements, and appears to be one of the principal agencies favouring the development of Electricity. But, although, we have spoken of the comparative healthiness of countries which have little moisture, the absence of it is by no means favourable, as is seen in the burning climate of Arabia, which occasion severe thirst, and the drying of the common surfaces, thus predisposing to operation of some of these effects are also produced in ascending lofty mountains and are relieved, if the weather become moist and damp. Dr. Edwards refers to this, and to the custom of placing in water, for evaporation, on a stove, when the department is thus warmed to diminish the painful feeling of constriction felt in the chest and, recommends the produc
time of a moist atmosphere near patients affected by many acute diseases, in which the skin and pulmonary membranes become and are supposed to desiccate.

We have already alluded to the circumstance that the effects of cold were much increased by combination with moisture. Has moist air then a greater cooling effect than dry? Dr. Edwards found, however, from experiment that the refrigeration was the same in the dry air and in the humid, whence it follows that the cold produced by the greater evaporation in the dry air, was balanced by the cold resulting from the contact of the humid air. so that it does not appear to act in this manner.

Another is whether moisture in the air favours, or tends to depress, the perspiration. We have often heard of the discomfort and proneness to disease manifested in the hot and moist atmosphere of some tropical countries, and are all familiar with the sensation that in such weather, in this country, or even in a cool and damp day, if much exercise be taken, the perspiration is not evaporated so quickly, but stands in drops on the fore head and other parts, while we experience a state of exhaustion, a depression of the animal spirits, and lassitude for corporeal or mental exertion. Connecting these two
circumstances, we are led to believe that the normal amount of perspiration at that temperature is prevented taking place, and that the perspiration all over the body is of a opposite nature, its being some resemblance to those feeling a stone before it breaks out, and which is intimated by wearing an oil skin dress. It might be probable also, that experiments on this matter, thus retained within the circulation had some influence in producing similar effects caused to such conditions.

Scharschel & Meyer made some experiments on this subject, and arrived at a different conclusion. For they found that very hot and moist air produces a greater flow of perspiration than dry air, of a still warmer temperature.

Dr. Pollock says "other circumstances, that being equal as regards the skin, that state of air which has the greater heating power, will occasion the greatest evaporation. Now, as we have previously shown, molecular vapour, which is that of vapour, hotter, has a greater heating power than dry air; whence we conclude, that the loss through the medium of the skin, will be greater in the vapor hot air than in dry air. He then goes on to say, that this is stuff, in the case of the lungs,
Faltin showed that if a man drank slowly 5 oz of water or other fluid, the evaporation from breath, skin + lungs was 2 1/4 oz. In Aug. after 6 oz from skin 6 3/4 oz only were given off while in lungs 2 0 1/2.
for there no evaporation takes place in moist air.
I suppose from the situation of lungs, not allowing it
to run off, as it does on the skin, or be absorbed by particles of
others, while a considerable amount takes place when it is dry. He then states that "we know by experi-
ment, that, the excess of transpiration in air loaded
with respiratory vapour, more than counterbalances
the evaporation from the lungs in dry air".
Edwards was inclined to believe, from experiment,
that animals treated with exposure to a dry, cold air
in a moist one, that they really suffered more
from the latter, he accordingly distinguishes two
actions; in dry air a sharp cold is produced which
is superficial, and the lungs have a tendency
to become rigid, while in damp cold air producing
a different sensation which seems more to penetrate
the body and produces motion of an intermittent
nature as shivering. He is inclined to believe that the
Intermittent fever, common to cold many countries,
many times be produced, especially during sleep, when
the power of generating heat is reduced.
In the present state of our knowledge I am inclined
to believe that its peculiar action must be owing to the
Electrical states, which are produced by the effect within
Electricity

If the influence exerted by this powerful agent on climate, little has been ascertained, but it is probable, that it plays an important part in many places, and that some of the effects ascribed to other agents are really due to this. How atmospheric electricity is produced, we as yet know little; from observing, however, that there are greater manifestations of it in warm countries, we are led to believe that heat has some agency in its production.

There are two states of electricity, which are called Positive and Negative, which are distinguished by opposite properties. The electrical condition of the atmosphere depends much upon its atmospheric state: for it is found that while the air is dry and clear, it is always charged with positive, but, if it be impregnated with moisture it has highly negative electric properties. Again, the bodies of animals are Positive, and as long as they remain so, there is enjoyed great activity of body and buoyancy of spirits, while as long as there is an atmosphere which permits them to retain these positive stores, there is comparatively little disease. But as the air, when moist, is generally negative (for though snow be falling or have fallen, the atmosphere itself...
May be in a positive state, while the earths are negative; the positive electricity of the body is diminished. The earth also is in general negative, so that, if a person stands long upon the ground with damp feet, one can conceive in how short a time this change will be effected, for the free electricity of the body is carried to the earth by means of the moisture. Now it is well known, that, in sensitive people, a depressing influence is exerted upon the body: much by damp weather, particularly if foggy, for it is observed that musty, highly negative properties, and at such times disease is apt and assumes an acutaneous form. The changes which take place when the feet remain wet are well known to be a most common cause of inflammation, and we can account, on scientific principles, for the benefit found in placing between them and the earth a thick layer of some insulating substance, such as leather. We see, now, a mode in which we may explain the injurious influence of cold, without having recourse to the supposition that the moisture, it to abstract some heat. There appears also to be some countenance given to the supposition that cold produces its injurious effects through the nervous system, by the disagreeable sensations appear...
enced by persons of great nervous excitability, or who suffer from neuralgic affections, in damp, or changeable weather, with thunderstorms; in the two latter states of the atmosphere, there is a continued change from one condition of electricity to the opposite, giving rise to headache, fear, or pains in the limbs. How the deprivation of positive electricity should prove injurious we do not know, but if we remember that there is a difference in the electric condition of the pulse of the muscles and the arterial blood, and even between that of the latter and the venous, we can easily conceive that such a change might affect the processes, which, according to some, are carried by those differences.
We must now consider how the operation and influence of those agents is modified by the different physical circumstances, which combine to give a distinguishing character to the climate of any district. We may state the chief of these to be Position on Earth's surface, Elevation on it, proximity to or distance from, large tracts of water, Prevailing winds and sea currents, geological formation, number of trees, presence or absence of marshes, rivers, lakes, state of cultivation.

First as to the Position of any place on the Earth's surface, comprising its latitude or distance from the equator or longitude, from an arbitrary line supposed to be drawn through the Meridian of Greenwich. The ancients were in the habit of dividing it into five zones, designating them by their supposed temperature. If there were only sea, or only a few islands, scattered here and there, these zones might express their temperature, but there are several causes which render them useless in this way.

We know that the Earth is not spherical, but an ellipse, that is to say, that it is flattened at the poles, and that the land is not equally placed on each side of the equator, but is crowded toward the Southern
one. We also see, on consulting a map, that there is a
greater amount of land at the Northern part of America,
and the Eastern part of the Old World, than in the
West, where it is broken up by the oceans. Now it is
found that this element is not so easily heated, or
cooled as land, and when a part of it becomes, at the
Tropics, warmer than that at the Poles, the latter makes
air to take its place, thus forming currents, modified
by the shape of the land along which they move.

It is owing to this cause that similar situations
are warmer than continental; that is, to say that
they have a milder climate, their winter being less
cold and their summer less warm. For, when compared
like St. Helena, situated near the Tropics, becomes hotter
by the solar rays, the atmosphere is rendered lighter
and ascends to place being taken by the colder air
of the ocean. It is owing to this cause also that
Australasia preserves an equal temperature but
advancing towards the Southern Pole, we find
that the scattered islands that exist, as Terra del
Fuego, are uninhabitable owing to the great cold
produced by sieben, which abound in the Southern
ocean, owing to the beam having less power guaranteeing
them, the heat which we have known to become.
some highly heated.

In the same way, we find, in Southern regions, the winds are warmed by passing over an expanse of water, at a higher temperature than themselves and thus proceed the countries near the warmer than those more remote, during winter, and in the reverse manner, cooler in summer. This is of course most felt in places always surrounded by water, that is much aided by the presence of currents, as the climate of this country is rendered warmer than it otherwise would be by the presence of a branch of the Gulf Stream. This renders also the coast of Lapland much warmer than that of Labrador, opposite to it. Geographers oppose the heat of a place by its average annual temperature and the lines drawn through places having the same, are called Isothermal. These at the Tropics correspond to the latitude, but advancing towards the poles, they diverge from it, and to the greatest extent between 40° and 45° of W. lat.; thus we find, that in the west of Europe, they extend much further south than in Asia or America. There is also a rise toward the western coast of the latter, owing to the prevalence of the west wind, sweeping
over a large space of water, while they are again
found on the Asiatic coast—a fact explained by
the great contrast between Tasmania on the one coast
and California on the opposite.

Then are other lines used, the isothermal and
isochronal lines, the former passing through three
places which have an average summer and the
latter through three which possess an equal
winter temperature. None of these lines correspond.

Thus Buda in Hungary has in August a tempera-
ture of 69°, degrees Fahrenheit, and in winter of 29°, while
the former in Bambili never rises more than 62° and
the latter not less than 39°. Yet these two places
have the same mean annual temperature, while
Dublin is situated many degrees further north,
but possesses no means of regulation by the
ocean. What appears to render the coast
of Eastern America so much colder than that
at an equal latitude here appears to be the
passage of cold winds from the large extent
of land gathering round the pole in that
quarter, just as in Spring the Eastern coast
of this island suffers from the cold air from
the melting Snow of Siberia.
Longitude. There are, on each side of the Equator, two poles of greatest cold, one situated in Siberia, and the other in the New World. Dr. Franklin says "perhaps we shall not greatly err, if we assign the longitude of 95° W. for the American, and of 100° E. for the Asiatic, cold Meridians."

The poles are the extremities of those meridians.

He has already spoken of the influence exerted by large tracts of water, and by forests, but there are a class of winds, which render many parts of the world inhabitable which otherwise would not be, owing to the excessive heat. When the land upon a coast has been heated for some time by the solar rays, it renders the warmer than that of sea and accordingly ascends; while cooler air takes its place; but during the night, when the land has been rendered cooler than the surrounding ocean, the process is reversed; the former gives place to what is called the breeze and the other to the land breeze. The neighborhood of mountains or tracts of country, as Labrador, covered with snow, have been seen to depress the temperature of the surrounding country, but that of mountains as those of Northern Africa expose the inhabitants of Southern Europe to great inconvenience from the hot winds they give rise to.

Elevation. As we ascend a mountain, we find the temperature diminish 1° for every 300 or 850 feet, we ascend, still the rate.
of clearance is not so marked at any great elevation). In this way a climate of any description may be obtained, to avoid the drawback advantage of in the presence of those of Tropical sections till we reach a point where the snow never melts. This becomes lower as we recede from the equator, being there at the height of 15,000 feet, while in lat. 60° it is only 3800 above level. Many large tracts of country are sheltered partly from exposure from a low temperature, e.g., the fact we require to keep in mind.

Trees by the evaporation they produce by their shedding the soil from the lower winds produce a country cold, but upon elevated tracts from the shelter they afford, have the opposite effects. Branches of trees and bushes foliage tend to cool the air, we shall often; so speak of this, in some more intimate connexen with disease, Lakes also cool it but at great extent, many have a similar effect weather, in equalizing temperature, as we find there of America renders the climate of Upper Canada more agreeable than that of the lower province. Cultivate by rendering it drier tends to render a country warmer or equal or cooler.

We shall now see at a glance how moisture is influence by those circumstances. But this we shall see at winter length. The fluid with respect to Latitude that more rain falls in the tropics than in temperate countries the annual fall of rain in following proportion as can averages in former 96 under this latter 34. The number of snowfalls
however, increases towards the poles. More rain likewise falls in situations on sea coasts, than else where, owing to the formation of vapours from it. A greater quantity falls in the New than in the Old world, and there are some situations, as along the west coast of South America, where no rain falls, having its place supplied by copious dew, and we constant in Egypt, it very seldom rains. In Australia at South Africa, the rains fall in torrents but run off into the sea leaving it dry till they next occur, and are very liable to fail. It must not be supposed that these countries where most rain fall are the moistest, for there are other circumstances to be taken into account. Trees, Marshes, Lakes. Rivers all render a country damp, the former by attracting rain, are exceedingly valuable in otherwise dry countries, and the cutting down of them in Persia has rendered fertile districts complete wastes.

In the Tropics the rains occur at particular periods of the year but there vary, according to situation, we shall mention them accordingly in speaking of individual climates. In the South of Europe, at midnight of the Mediterranean, the greatest amount of rain falls in winter, in the Northern coast, including our own country, in winter
From East of France through Belgium, Switzerland, to Russia, with some exception as in most of Russia it is summer on South America on East side flowers are in summer, on South West side in winter. From such facts it has been supposed that in Inland situations most rain falls in summer, while in Island it falls in winter or autumn. We forgot to mention that elevation increases the fall of rain if there be rainy seasons, and the vicinity of mountains nearby renders the surrounding districts sunny, while in their absence in Tablelands rendered them generally arid as the steppes of Tartary.

The Manufaction of Electricity are that frequently and on the grandest scale occur in the Indies.
We shall take a rapid survey of the climates of particular countries, confining our attention, however, to those with regard to the diseases with which we have accurate information. After what we have said of Climate in general we may gain only the distinguishing Features of Great Britain. We need not again speak of the circumstances which render this country so different, in its climate, from other countries. Its great peculiarity is the small difference, which exists between its winter and summer temperature. Thus plants of a Southern climate will often grow well in the open air here, even flowers that will seldom ripen their fruit. It is certainly changeable, but in that respect does not differ from countries of the same temperature or even warmer ones so much as might at first thought appear.

The mean temperature of London is 50° 3.9 Fahrenheit; but there is considerable difference between it and surrounding country as it gains and loses its heat more slowly and is a degree or half warmer. The south coast is warmer, especially in winter than the rest of the kingdom. This means towards the south west, they care also milder. The East coast on the other hand is exposed to cooling Atlantic seas from the whole, a circumstance colder climate
Nova Scotia & New Brunswick. This may be almost considered as an island. Its length = 280 & breadth from 50 to 100 miles. It is composed of gently undulating country, with in general, rich soil, its coast much indented with bays, and on the coast, matter, generally, has been, in it, connected my link between the climates of Great Britain & Canada. It is exceedingly variable, for the Thermometer has been known to exhibit a difference of 62° in 24 hours. There is also a much greater difference between the temperature of the sea & winter, than in this country but not to such an extent as the Mainland, as it seldom exceeds 88° Fahr. or from 5 or 6 degrees below 0° & 8° below zero, which is extremely that require a very moderate cold. The atmosphere is dry & hazy and the snows are more frequent and deeper than in Britain. The winds which prevail are in spring the East & in winter the North or North-East. Snow lies on the ground from December to April; the spring is exceedingly clear, but the autumn, long, the latter and if it first before winter sets in being very mild & thus called the Indian summer.

Canada. This vast country is divided into the Upper & Lower provinces which differ somewhat in climate, the latter being very severe for snow comes the ground from Nov. to May, while the Thames
Center is 30° below zero but towards the latter part of winter the winds from the ice-bound country to the hills produce such intense cold as often to destroy the instrument used for determining it.

The interval between the melting of the ice and the heat of summer is necessary short as almost to be imperceptible to those accustomed to our long spring. While at this season the temperature is almost tropical, rising to 95° Fahrenheit in the middle of July and seldom cooled with a refreshing shower as the earth has been well watered by the snows.

During it is conjectured to be equalizing influence of a large mass of water, as the Lakes, the climate of Upper Canada is much milder, and indeed in some situations, upon their bank, is said to differ but little from that of England; while those 60 or 70 miles removed from them more resemble that of the lower province. Now let us generally from December till March, about two months less than in lower Canada. The summer temperature is modified in some manner, but owing to the lake is moister than the coast, during this season a breezy blow overlooks for greater part of day. In winter the winds are N. E. which are "dry, cold & elastic."
The Bermudas are a group of islands situated in 32° 26' West latitude & 64° 5' West longitude, of moyen elevation and rocky soil, upon which, however, there are at some parts forests of Cedar. There are some marshes, and the whole soil is penetrated with sea-water. The summer is excessively hot, the mean temperature in August being 83° F. in the coldest month, February it equal 68° F.

During summer there is no clear and little or no rain, which falls principally during August, Sept. & October. The prevalent winds are in winter the keen N.W. East and during summer the South-west which are prevalent in Spring & Autumn. Western breezes are most common.

Gibraltar. This celebrated fortress with a town beneath it is situated upon a gigantic rock, of grey limestone, measuring three fourteen hundred feet above sea, and connected with the mainland by a sandy slip of sand a mile long half of that distance broad, while in every other direction it looks to the sea; on the west to the Atlantic, East to the Mediterranean, and on the South across the strait, to the opposite shore of Portugal. From its situation it is much exposed to winds and its rocky character renders the spray of the lown very powerful. It is accordingly dry & hot, seldom over and exposed to fog & mist throughout the year.

The mean temp. in January is 68° F. in July 81° F.
but as the latter it is 3° 44' lower at night than during the day, while the mornings and evenings are cool.

Though there is no snow, still the winter cold is often severe and felt so especially by old residents.

The mean annual fall of rain is 25.60 inches, but the amount varies in different years. It falls with great violence during the first part of winter while little falls occurs in summer.

The principal winds are the West and East, which each prevail on a number of days very nearly alike, the former are clear, dry and refreshing; the latter are "clam, raw & unpleasant" and are found to produce materially wounds of surface and acute diseases, and when from South East are accompanied by fog and produce similar effects to the diseases of other places.

Malta. This island is situated in lat. 35° 36' N., long. 16° 16' W. being distant 60 miles from the Sicilian, and about 200 from the African coast. Its length is 20 miles, its greatest breadth 12 miles, while its circumference is 60 or 70. The ground is rocky and destitute of soil composed of a calcareous sandstone, and clothes away from South West to North East, presenting few trees and no rivers or lakes, and the only merchandise on the sea coast, and few on the island.
Owing to these features, and to the prevalence of hot winds, the temperatures are exceedingly high, rising from July to September the hottest months often to 95 or 98 in the shade. As the rocky ground radiates its heat during the night, there is no cool breeze and consequently little decrease of heat compared with the day.

The prevailing winds are from the South East, South East, and North East; the first of these is named the dioces, and these are most frequent in autumn; it is hot, sunny, and disagreeable, producing in persons sickness, especially if strangers, insomniac, siestas, and sickinsomnia, especially to those suffering from consumption. It is said that it frequently happens that after it has continued for a few days, it is succeeded by an extremely cold one, from the North or West, which must have the effect of precipitating the moisture brought by the dioces, so that this illness seems to be by no means to any extent he supposed from descriptions given of it, but there is no register of quantity of rain that falls; most occurs at beginning years but a great deal throughout the whole winter but very little in summer months. There is considerable desolation in the ascent of the climate of this great ascent of mountains.
but, upon the whole, it appears to be very hot, during summer, tolerably cool in autumn, but, during a great part of winter, to enjoy a very pleasant climate, apt to be disturbed, however, by cold winds.

Ionian Islands. These extend along the shores of Greece, from W to S E, and consist of Corfu, Parga,圣ter, Manara, Cephalonia, Ithaca, Ypouti and Zante, the last being somewhat external to the others. Although the different islands vary much in their comparative bulk, they do not little in their physical conformation and climate. They consist generally of loose rocks, covered in some places by vines & olive trees, with deep valleys between them, many of which are too narrow to be fit for cultivation, and like other mountainous coun-
trees are exposed to atmospheric inclemencies of the most freque-
t sudden occurrence. The extremes of heat and cold, dryness and humidity, tempests and calm weather often succeeding each other in the space of few lines, which renders the cold and heat more severe than under other circumstan-
cs. Being also to the nature of the ground the summer heat is excessive while the wind, from the snow clad mountains of Albernia renders winter extremely cold. More so to the measure than ascertained by Thermometers. In July green
temperature equals 81 1/2 but in February the coldest month does not sink below 62° F.

The North and E. winds are cool & healthy, but the South & H. moist as usual, accompanied by heat and afever, but still is unfavourable even to vegetable kingdom and wounds or ulcers become, as we have seen at the other stations, difficult to heal, while other diseases, especially intermittent fevers, are aggravated by its presence. The winds are however, greatly modified by islands, points of the coast.

The rain here falls, as in Britain, in showers and not in torrents as in the countries we have mentioned and more throughout the year than in them. In comparison by small quantity also appears to fall annually. M. Helena. This island lies on the Atlantic between 35° 16' of S. Lat. 5° 5' of W. Long. Its general character are mountains & rugged, with plenty of wood from streams but no marshes. Though within 15 degrees of the line the climate is by no means unhealthy, even for geese, some time resident there, experience but little of the debilitating effects of 20 year causing as little difference in their health as in other tropical countries among. The temperature differs much as in other isolated on the coast as a sort of valley.
formed by two ridges, or at Plantation House at an elevation of 1733 feet. At the latter place the temperature during summer differs little from that of this country, while at the lower situation the thermometer sometimes rises to 85° and generally stands at 80° Fahr., while in August, the coldest month, at Jamestown it averages about 70° and at Plantation House only 10° less. The difference in temperature at different places of the year, are thus comparatively slight; but the advantage of this is counterbalanced by the circumstance that a soldier on ascending from the Pot to ladder hill, exchanges a hot and, for a comparatively cold climate, unthankful while fatigued and perspiring.

At the capital the weather is very dry, while in the elevated parts it is quite the reverse, as the the hill it rains almost every day. At flour there fell 5' 4'' at letter 2' 8'' miles at former it rained 4' 6'' at latter 1' 8'' days in the year.

At this station, as well as the two following, a reverse order of the seasons, owing to their situation being south of the equator, exists.

Cape of Good Hope. This colony is of great extent and thus presents considerable variety in climate. Physical characters; but its distinguishing feature is its great dryness.
for in many districts the rains, when they occur, fall in torrents, but are of short duration so that the thirsty soil is not penetrated and thus many portions of the western part are rendered sterile.

In the Cape district, of which we shall just speak, this is not felt to such a degree owing to the large expanse of ocean in its vicinity. Its temperature in January is 78°F in July 59°F. But this is not a correct estimate of the heat felt by the inhabitants, owing to the radiation of the mountains, in nearby bowers, the thermometer may rise in the shade to 105°F. The prevailing winds are the South-east & South-West, the former for is usually sultry & occurs in summer, the latter cold & is accompanied by rain. In winter, in Spring and Autumn there is the South-west which is an excessively moist accompanied by quiet rain. Rainy average 41 inches, and number of days on which it fell 75annually.

The Eastern Frontier sustains great variations of temperature during the year. In some places the summers is exceedingly hot, the Thermometer often being at 110°F in the shade, while in winter the nights are excessively cold, but, near sea coast, these extremes are much felt.
to such an extent nearer the coast, as at Graham's town, the climate which is delightful.

Mauritius, latitude 20° 47' S long. 57° 28' E. is an island to the South East of the Cape 36 mil.
in length and from 18 to 27 mil breadth.
It's general character are that it is Mountainous & rugged with ravines bounded by well wooded hills
furnishing numerous small streams; the soil is a rich moorland clay. Temperature in August 74°
March 83° 7 but the season is considerably warmer on the windward side of island owing to the
wind, of which the most common direction is the South east. The fall of Rain = 39 36 inches.

We now proceed to the consideration of climates still warmer than those we have yet spoken of. We
shall first take that of the West Indies.

1. Windward & Leeward Command. This is composed of a group of islands lying between 60° 7100
W lat. + 50° 63° W longitude comprising Trinidad
Tobago, Grenada, St. Vincent, Dominica, Antigua
Barbados, St. Vincent, Montserrat, St. Kitts, Nevis, etc.
These very Ansele in appearance the first four
with exception of Grenada are Mountainous Islands
with ravines, ill ventilated & full of stagnant water
while monsoons are closely wooded, while their climate is warm and variable, the sixth and seventh have a climate and configuration in every respect different, while that of others presents some affinity to each. Poetic license, which we omitted to mention, is leal, wooded, treasurable, and has a most lasting and very variable climate, probably from its Continental situation.

The temperature of Coromandel (measurement) = 80½, some of the islands differing much from this average. The range of temperature is small in some exceeding 13° in some only 4° in the year. (Méridiane = 60°) Barometric pressure barely little 1/2 mile, 2-3 inches)

Winds = 60 or 70 inches. They fall in torrent, greater than in other places we have spoken of and during the Spring and Autumn, but owing to their following the course of the doldrums occur in the most sultry only several months earlier than in the Northern islands. The sea breeze is constant, and blows from East except from August to December, when it is South westerly.

Jamaica. This island is said to be almost a counterpart to Mauritius, the rains being quite
reversed, owing, to their being situated on different sides of the line. It lies in N lat. 17° 35' to 18° 30' and W Long. 76° to 78° 40 about 900 miles from last command and is 470 miles in length, 450 broad at widest part. On looking at the map we see it crossed by a ridge of mountains longitudinally, from East to West, and that this approaches nearer the North than the South side, the former is accordingly hilly and being thus more adapted for pastoral, their agricultural purposes, is less known by Europeans, than the level country of the Southern side, where are situated the principal sea-punts & garrisons. Not only do these two districts differ much in temperature, but, by ascending the mountains, one comes to every variety of climate, witnessed by the appearance of the flora & fauna of tropical, temperate, regions, while the mean temperature is from 55° to 64° Fahr; the highest point occupied by troops Sharon town 74' 1/2. On the south-west, at noon extends from 8° 30' to 92° 7', Mean = 50 inches. The thermal rains take place in May and the Autumnal in October, between these periods the weather is hot and sultry, after
continuing for a month or six weeks, the islands and the weather becomes agreeable, till April arrives, when the rains, on the Northern side they are a month later, but fall for a longer period for greater quantity.

The heat would be insupportable, were it not for the trade wind, but this generally fails just before advent of rains. In winter North winds are frequent, which tend to reduce the temperature.

West Coast of Africa. This tract has long been regarded, and, with justice, as the most deadly spot for the European in the world, and this owing to the cause of Fever, of which all the known causes are in the greatest everywhere.

It consists of a belt of rich alluvial soil, brought down by the numerous rivers, which here separate to find their way by several mouths into the sea, their banks covered with forests, and the whole appearing one vast swamp. At Sierra Leone, the mean temp. of the hottest month is 82° and the Coldest 80° while at the Gambie they are respectively 87° and 80°. Replenishing this apparent equality thence coast is, with the exception of Sierra Leone,
...subject to sudden and great variations. Rain = 141 inches, and it is mentioned that nine
rain fell on two particular days, there in a whole
year in Britain. It falls at Sardhana from
May to November, and at the samian from
June to Sept or October accompanied by tornadoes
"Nothing can exceed the gloominess of the weather
during this period; the hills are enveloped in
penetrable fog and the rain falls in such torrents
as to preclude that exercise of amusement which
are so necessary to invigorate the body and give
energy to the mind." The diseases there occur
as a general rule, appear at this season,
owing to their situation near the equator, the
places have no benefit from the Trade winds,
just as ships are often becalmed for weeks,
in these latitudes, they have frequent the deep
steep and in winter a hot clay coming from
the land.

The next country is the island of
Ceylon which is situated in the Bay of Bengal
on the South and to the East of the Indian con-
tinent from which it is only 20 miles distant.
Its situation is very near the equator, as it lies six lat
5° 54' and 9° 56' North of it; its longitude is 79° 56' +
82° 10' East.

The interior and southern parts of the island are
hilly, in some places even mountainous, and conseq-
sequently cool; but the greater part of this is occupied by
forests, but between the mountains and the
southern parts of the island (the level is better
cultivated). The districts near the sea are
exceedingly flat and wet, being crossed in many
places with dense forest, but the sea coast itself
the country is better populated and cultivated.

The temperature of these districts of course varies from
but is subject to little variation. With regard to
rain, a great deal falls on one side and severely dry
on the other. On south-west coast = 70-80 miles.

This island has of course the monsoons, but these are
comparatively little felt.

The Tenasserim Province are situated off the Eastern
shores of Bay of Bengal extending about 620 miles and
about 50 in breadth. The surface is flat covered
with densely wooded and almost uncultivated. Its distin-
ing feature is humidity, the annual fall of rain being enormous.

Drying to this perhaps, the temperature is more contracted than that of Bengal.
We shall first enquire into the influence which climate exerts upon the blood-preparing organs.

**Diseases of Digestive System**

We should be led to expect from the actions of warm climates upon the different secretions that the symptoms of these organs would be more frequent. We shall now see by comparing the admissions and deaths which occurred during several years' observation, among the European and native troops, at different stations of the British Army for 1000 men.

<table>
<thead>
<tr>
<th>Station</th>
<th>Admissions</th>
<th>Deaths</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>135</td>
<td>13</td>
<td>1 in 11.5</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>94</td>
<td>1</td>
<td>1 in 62</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>34</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Gibraltar</td>
<td>186</td>
<td>2.1</td>
<td>1 in 39</td>
</tr>
<tr>
<td>Malta</td>
<td>155</td>
<td>3.6</td>
<td>1 in 43</td>
</tr>
<tr>
<td>Lincon Island</td>
<td>156</td>
<td>3.5</td>
<td>1 in 44</td>
</tr>
<tr>
<td>Bermudas</td>
<td>416</td>
<td>5.3</td>
<td></td>
</tr>
<tr>
<td>St. Helena</td>
<td>268</td>
<td>13.3</td>
<td></td>
</tr>
<tr>
<td>Cape of Good Hope</td>
<td>126</td>
<td>3.1</td>
<td>1 in 41</td>
</tr>
<tr>
<td>&quot; Eastern Towns</td>
<td>88</td>
<td>2.3</td>
<td>90</td>
</tr>
<tr>
<td>Mauritius</td>
<td>275</td>
<td>10.6</td>
<td>1 in 26</td>
</tr>
<tr>
<td>Jamaica</td>
<td>238</td>
<td>5.1</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Black Troops*

*48 Hotentotes*

*Negroes*
The greater portion of those diseases depend upon debility which explains their great prevalence in tropical countries, when one come to these diseases, we shall show the circumstances which must be taken into account, but, we are sorry here, that in many of these stations the great proportion were caused by the use of salt provisions, and treating in too great quantities of tropical fruits.
Diseases of the Digestive organs

1. Gastritis. Acute inflammation of the stomach is seldom met with in this country, or in Europe, but is by no means uncommon in the Tropics. It is supposed to be produced by those circumstances of diseases of warm climates, exposure to the chill of the evening after the heat of the day. A chronic form has, however, been proved not to be so rare, as was long imagined, and to be one of the most common causes of dyspepsia; this of course exists in all countries, but also seems to be most common in the Tropics, owing probably to the derangement produced by hepatic disease, or occasioned by the same circumstances and equally common supposed to be the cause of the derangement in the diest. It is generally accompanied with an epidemic which is a common source of mischief in hot countries as in Europeans who have been otherwise long, there is a great tendency to torpidity. Sir James Clark speaks of three kinds of dyspepsia. The inflaming or Gastritis, where the mucous membrane of stomach is involved in a corrosive form of inflammation
shown by the redness of tongue, eyelids &c, headache and acceleration of pulse. These patients he dismisses from going to any place where the climate is ·stimulating, such as the South East of France, which he pronounces to be very hot & irritating, or those which he calls is warm exhilarating, but upon the whole irritating. Strong places in the Tropics which owing to their dryness are thought healthy to persons prone to such affections must be highly injurious and must have a tendency, as we learn to produce such a state. He accordingly, recommends the mild climate of Devonshire, or the calm one of Rome.

2. The Atomic form of dyspepsia, where an aliment condition exists, and the digestive and other functions are languid and inerent. It occurs most frequent ly in cold, brumial weather and situations, while the health and appetite improve when the atmosphere is dry & warm. He recommends a climate in this form.

3. Nervous dyspepsia, where the prominent symptoms point to this system. This agrees best with an intermediate kind of climate subacute inflammation of chondreum, systems, thought to be caused in many kinds of syg
pepsia but it seems to be much more so in hot climates.

Connected with this subject is disease of the liver which we shall now consider after which we shall go on to speak of typhus infection.

Diseases of Liver.

It has long been known that this class of disease are more frequent to a great extent in hot than in temperate climates where they generally assume only a chronic form, while in the former they are often acute, with great immediate danger to life. Indeed in this country acute inflammation of the liver is seldom, or never seen, what is, sometimes, considered as malaria amounting merely that of the diaphragmatic venous afflux on it.

To explain the great frequency of this disease in hot climates, two theories have been brought forward: the first is that of Dr. Johnson and consists in supposing that a sympathy exists between the vessels of the skin and those of the liver, by means
of which, their secretions are increased and diminished at the same time, and, accordingly, refers the injurious influence of hot climates to the increased secretion, which also after a time becomes intiated, of the liver, inducing a state of congestion and tendency to discension on the application of any stimuli. This he says is afforded by the frequency of exposure to chill in those climates, suppressing the cutaneous and through it the hepatic secretion after it has been increased by the long continuance of heat. An example of this we see in the autumnal attack of Dysentery + English Cholera, which are supposed to be caused by the intimated character of the bile from the long continued celestival. The other theory is that of Dr. Copeeland and others and is based upon the fact, that in hot climates less Carbonic acid is given off by the lungs, and, post, what is ascended of the composition of the bile he believes that this is given off by the liver in greater proportion than usual, thus inducing greater activity of function, and consequently promoting the inflammation.
The supporters of Dr. Johnson's views object to this, as it is found that after a certain number of years, there is induced an opposite state, that of insufficiency of the liver. But this condition may depend upon excessive congestion of the veins, preventing the formation of the bile, just as that of the kidney causes an imperfect excretion of various matters, which should pass out through it; it being then, to be an objection to this that there is less tendency to attacks of cholicangitis from exposure to cold, but the organ may have less indication to obey stimuli than before.

Another fact which seems to favour Dr. Copland's theory is, that there is the greatest tendency to acute inflammation among snowplow patients in whom there is merely a deposit to the accumulation of concretionary matters in the liver, while those of a chronic and melancholic temperament are liable to the chronic forms, and liver disease seldom occurs in the former, before the age of majority, prior to which fatty matters are required for the wants of the system.
This is however, much that is in favour of Dr Johnson's theory. Indeed, I do not see that there are many facts, that favour the one view, which may not, also, be explained by the other, and I think it impossible to deny the probability, that these and many other causes may concur to produce such an effect.

Isn't the increase of temperature alone or that coincident with moisture and other circumstances that determine the production of such diseases?

Our chief point refers to the statistics of the troops.

United Kingdom 8d per 1000 of Live Men.

<table>
<thead>
<tr>
<th>Country</th>
<th>Per 1000 Live Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norse Ireland</td>
<td>9</td>
</tr>
<tr>
<td>Samoa</td>
<td>8</td>
</tr>
<tr>
<td>Bermudas</td>
<td>14</td>
</tr>
<tr>
<td>G. allied</td>
<td>13</td>
</tr>
<tr>
<td>Malta</td>
<td>21</td>
</tr>
<tr>
<td>Jornain Island</td>
<td>17            8</td>
</tr>
<tr>
<td>St. Helena</td>
<td>29</td>
</tr>
<tr>
<td>Cape (Cape Town)</td>
<td>22 1.1</td>
</tr>
<tr>
<td>E. Frontier</td>
<td>21 1.1</td>
</tr>
<tr>
<td>Mauritius</td>
<td>82 6</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>82 6</td>
</tr>
<tr>
<td>Windward Isles</td>
<td>22 1</td>
</tr>
<tr>
<td>Jamaica</td>
<td>10 1</td>
</tr>
</tbody>
</table>

Note: "Natives" 25 677 4 17 2 4
Madras Dist. 116 5.6 Naural Logs 7 1
Ceylon 5 5 5.4
Kanara Prov. 72 4.3
Bombay District 3 3 5.7

Colonel Bellch states that in a report which I
have not been able to obtain he came to the
conclusion that the proportion attacked at the stations on the Indian
continent is greater than in Ceylon but gives the
amount at Madras from a Paper in Statistick
County Jurnal which shows a very great increase,
considering the two localities are so nearly situated,
We can by these actions that an elevated climate
has a beneficial effect in causing diseases. It is clear,
that moisture has come in producing the disease,
though in most countries the disease appears to
have a more aggravated character.

The most remarkable feature presented, however,
is the great preponderance of such diseases to the
Eastern side of the Atlantic Ocean, compared with
the Western, as the disease appears to increase
along the former turning the canoe and nearing
an insensibility till we come to Indias, whence
appearing to diminish in the Mexican dominions
of this no sufficient explanation can be given.
for the these diseases does not seem always to come
an increase for we observe it to be more prevalent at
the west of Africa than in the West Indies;
with regard to the latter there is this curious circumstance
that it is three times as common in Grenada as in
the other islands in the group; to which familiarity no
explanation can be afforded from any difference of its
climate.

With regard to season the proportion is very much
the same in the wet as in the dry months
At Macao in 6 wet months 249 in 6 dry 249.
They diminish in frequency in colder weather
In Bupre it has been found that the quarter in
which these diseases are least prevalent is from
20th December to 20 March, when except at
Freemasons, the variations of temperature
throughout the island are greatest, and the
quarter in which they are least fatal is
from June to September when these warming
winds are generally least, so that equality
of temperature would appear rather to make
by the severity than diminish the prevalence of
Aperyitis" Thirp. p. 18.

With respect to India itself it appears
to be most prevalent in the hottest and
moist districts. "In the Carnatic the frequence
of Hepatitis is well known, here the range of tempera-
ture is much higher than in any other part of
India, the full of rain is also very much less
than in the provinces under the Bengal Bombay
Residencies and the soil under water, more quickly
and less effective, than in the latter. Here the
great heat is not to frequently nor so adequately cooled
and the coldness, as it is the prevail, the full of rain becomes
less, whereas in the provinces under the Madras
Presidency, are nearer the equator, several of the
other districts of the British Empire in India
are situated beyond the tropic; and they
from latitude to the various peculiarities of the
soil situation and climate, the Carnatic and
several provinces in the Indian peninsula
possess from a much higher range the
temperature and proportionately greater liability
to inflammatory affections of the liver." "Hepatic disease is least common in these
parts of the Madras Presidency, nearest
to that of Bengal. The death percentage
being the lowest provinces, which come
nearly approach three under the Bengal free slavery, and the highest percentage in the Nine
Tenantry and Cottar Bachelors' districts. These facts render it most probable that the dif-
ference in the percentage of diseases of the Biliary organs, particularly acute inflammation of the
Pancratic dependant, is in the great degree upon
the nature of the soil and situation climate
and the mean annual height of temperature.
Acute hepatitis being more frequent in the corom-
cal coast than in the southern provinces of India when
the mean annual temperature is high.
From the accounts I have seen, there does
not appear to be any very satisfactory
proof for believing that Hepatitis is dependant
upon the item of Melanies, and I think it
more probable that we have seen that
at least it is not favoured by moist plains
or by terrene plains, though not moist, where
Melanies prevails, that it is supposed depend-
on this reflux is superior to the
first of the tendency formers hence to cause it. There is seldom seen within the tropic
area of disease in which upon occasion,
the liver & spleen are both sound. Dr. Copland expresses the same opinion; he says, in many parts of India where the range of the temperature is very high, and at seasons when the air is very dry, primary, acute, hepatitis is often frequent amongst Europeans, whilst in warm moist and malarious localities the hepatic disorder is generally consecutive of other maladies. I think that the small amount of hepatitis that occurs in the west Indies is a good argument against its being ascribed to malaria; and we must come to the conclusion that heat, along with some other cause, is the great cause of the greater part of this disease, and one scheme them together. It may be of use to ascertain the proportion of such cases among the negro or depy troops at those stations, where they are employed. It is a mistake to suppose that in the negro the liver is large & functionally active; the reverse is the case owing to the structure of the skin & its copious secretion, & circumstances which, I think, is against the view of Dr. Johnson as to the sympathy between the two organs.
being as perfect as he supposes it to be.

The have already given the proportion in this class of troops. It will be observed that a great increase is observed at the Mauritius, on which the editors of the army reports, thus speak:

"Though accustomed from infancy to a high temperarure and constant exposure, the Black Troops suffer more from hepatic disease than the White Troops, natives of a Northern climate, the mortality being relatively as 57 to 4 per 1000 of the strength. The admissions are, certainly, not so numerous among the former, but as generally happens in tropical climes, many of the milder cases undergo inactive treatment without the patient losing them into hospital. As the negro does not suffer either on his native coast or in the West Indies, notwithstanding the high temperature, his liability in the Mauritius seems to arise from such fevers as tend to the climate to produce them, for which no satisfactory theory has yet been advanced."

Page 18. In the report on Beylon we find that "the influence of diseases of the liver on the negro compared with the other races of Black Troops is, scarcely, less
remarkable than what has just been observed in regard to the dysentery. Among the Malays and Malays, the mortality from hepatic affections amounts to a mere fraction, and no fatal cases at all have occurred among the Europeans, while the Negroes have lost by it $3\frac{2}{10}$ per thousand of the strength annually. In the Mauritius the mortality from these diseases was shown to have been higher among the Negroes than the Whites, and even here it is only one-half less, so that the natives of some tropical climes seem equally subject to their influence as those born in Northern latitudes.

The exemption of the Negro from hepatic disease is still more strikingly manifested on his native continent, where the mortality by it, during the 12 years before referred to, did not exceed one in every ten thousand of the force annually. The shall now speak of that disease named dysentery which perhaps next to fever is the most dreadful pest of warm regions; it which it is well known to become greatly increased in
severity. In our own country the disease is which it is principally met with in autumn owing to its transitory character, it has been increased in quantity and intensified in quality. This is thought to be a frequent cause of the system's being weakened by its attacks in hot climates, there is generally some irritating matter in the intestines caused by the water drunk, is of bad quality, during the fatigues and hardships of a campaign it appears.

In some instances, when numbers of men are collected in certain places, suffering from such predisposing circumstances. This disease we have seen is greatly more frequent and severe in the Tropics than in other parts of the country. Thus, in Canada, there is only a mortality of about 1 per 1000. It differs also in severity in the East and West Indies, thus in Ceylon there were 211 per 1000 attacked and 23 died, while in the latter the numbers were respectively 206 and 1 per 1000, showing a larger proportion in the East Indies. In most of those commands however, the great mortality occurred when the provisions were bad or of bad quality, and this is found to be the case in almost all places in temperate climates, where the disease has prevailed with great intensity, as an epidemic, as the
Sir George Ballingall says: "The contractor in colonies of a tropical climate operates upongenic organs to this in illuminating affection of the skin has always appeared to one involved in considerable obscurity. Heat, particularly when combined with moisture, the inordinate use of spirits, the abuse of spirits and liquors, exposure to currents of wind and rains often dense, have generally been looked upon as powerful agents in the production of fever but it seems difficult to account for the frequent occurrence of colitis in the first arrival of European seamen in India, before many of these causes can possibly have taken effect, before the climate and soil are supposed to have exerted its harmful effects upon the constitution at large or on the hepatic system in particular; and before the soldiers have become accustomed to the abuse of the most poisonous description of spirits, which emerging
and population are generally exempt from the disease. Among the troops, the returns as to the amount seen in different stations are little reliable, for in some places as high as 10 per cent of the sick, the disease is now exceedingly small although it appears great if we take in the years, when the troops were exposed to salted provisions. It is strange that although in the East Indies as Ceylon the introduction of better food caused a diminution in the mortality of the seamen attacked it still continues large. In this respect of the world, too, the climate from being more healthy, while in the west Indies most die after frequent attacks. It is found that those newly arrived, are very subject to the disease, and that although fever is the most common disease among Indoans, on the opposite side, this is the most fatal, as in Newer is more frequent among the British soldiers, than amongst, throughout the East Indies.

What sort of Climate favours Dysentery? we
have already been told a hot one does, the
seem to be the cause in Indies. It certainly
also occurs in other day countries as the Cape
but this seems to be owing to the habit
of the soldiers and their indulgence in too much
renders their obedience frequent, obtrusive & incalculable.
a quantity of rain.

In the Mississippi Province we find that about
one half more were attacked in 6 wet months than
in dry ones. In Google the editor of the Report
days that it was most common & dangerous after rains
at change of seasons although he seems to think that
moisture is not the cause of it, as it occurs at
every season. In another place he says that it is not
increased when a greater quantity of rain falls but this
may be owing to its refrigerating effect upon the sting
Acetation is believed but I think upon many
point grounds to depend upon Acetation if such be the case these must be some
modification of the Acetation. Those places where
the days is hot & night cold are supposed to
be the most powerful for this disease.
Action of Climate on the frequency, progress and mortality of diseases of the
Organs of Respiration whose function is with air surfaces to allow of the admission of a
fresh supply of Oxygen to the blood and elimination of its Carbonic Acid.

The first effect of heat on the air we breathe is to expand it so that a given volume contains
a smaller proportion of Oxygen, and accordingly the breathing for a while becomes more rapid, but soon
becomes almost owing to the establishment of a
greater secretion from the Skin. In warm climate
this continues aided by that of the Skin, and,
consequently, the lungs have a diminished labor
so perform and hence less functional activity.
Now, we find, that in general, those parts of
the body which have the greatest activity
of function, are most liable to take on the inflam-
atory action, and we should accordingly expect
the Mucous, Pneumonia & Phlegma as
likewise others less frequent in warm count-
try than in cold ones, and such has been the
generally received opinion.

Let us first observe how the frequency and
Mortality by diseases of the respiratory organs in general are affected by climate. We shall take the statistics of British army as our chief standard.

<table>
<thead>
<tr>
<th>Location</th>
<th>Mortality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>7.7</td>
</tr>
<tr>
<td>Nova Scotia + Newfound.</td>
<td>7.1</td>
</tr>
<tr>
<td>Bermuda</td>
<td>6.7</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>5.3</td>
</tr>
<tr>
<td>Malta</td>
<td>6.0</td>
</tr>
<tr>
<td>St. Helena</td>
<td>3.4</td>
</tr>
<tr>
<td>Cape (Cape District)</td>
<td>3.9</td>
</tr>
<tr>
<td>&quot; (Eastern Frontier)</td>
<td>2.4</td>
</tr>
<tr>
<td>Mauritius</td>
<td>5.6</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>4.9</td>
</tr>
<tr>
<td>Jamaica</td>
<td>7.5</td>
</tr>
<tr>
<td>Windward &amp; Leeward Colony</td>
<td>10.4</td>
</tr>
<tr>
<td>Ceylon</td>
<td>4.1</td>
</tr>
<tr>
<td>Peninsular Provinces</td>
<td>2.0</td>
</tr>
<tr>
<td>Madras (State Bombay)</td>
<td>3.5</td>
</tr>
</tbody>
</table>

In the Navy, we find:
- On the Home Station: 301
- In the Mediterranean: 251
- In the East Indies: 193
We find in great lattice service, that, though the diseases are much more numerous, the deaths are fewer, which is supposed to be owing to the facility with which the sick can be sent home and dismissed.

By looking at such numbers we must come to the conclusion that diseases of this class, as in India, become, with some exceptions, less serious as we approach Tropical countries, for although the contrary deduction has been attempted to be shown, I cannot see upon what data it is founded.

Contrary to what we might have expected there is at a great difference in the proportion of the several chief diseases at each place, we shall first consider the influence of Climate on Bronchitis.

Under this is included Cocks Pute, Chronic Catar, diseases which we should expect to be much benefited by a warm climate, where the air is moist and soothing; for it is. In this disease, perhaps, an. greater degree than in most others, that a marked benefit is derived from the arrival of summer air. This country we should also suppose it to be most frequent in these
places which are least subject to atmospheric
changes

Canada 89  These examples will show, what the
N.S.W. 72  Report of United States Army Survey
United King. 123  stands, Bump out  still more forcibly, that
Gibraltar 86  these cold laws little effect, as they are con-
Malta 74  trary to small proportion of the two
Lomendo 49  first Commanders which are the coldest,
Bermudes 74  while the changeableness of the winter
Cape 58  air in any country does not appear to influ-
Mauritius  ever the proportion in any considerable
Ward 49  76  degree, as in the changeable climates of
Lomendo 55  Nova Scotia & the Southern islands
is comparatively small.

In the Nemoa we find the order of frequen-
y in the General Commanders of the Mediterranean
The notice in these parts of West Indies 181
the two Sermes, the great South American 139
excess of sickness from this Africa 180-7
cause in the Mediterranean. East India 174.
The Nemoa says. "Taking all forms of Pulmon-
sy Disease, the shores of the Mediterranean,
and of the adjacent Peninsulas, are more
fertile in their production, than any other
Election, the South American & East Indiaman the least 2011.

Whether this be owing to the great variation of temperature to which the countries bordering the Mediterranean are exposed we do not know; but from the facts themselves one would admit the propriety of sending patients who are only subject to such diseases to sojourn in them. Dr. Clark recommends a change, however, in such cases, for this he thinks Rome in good situation I should suppose that the warm southerly air of the South-west coast would be as beneficial as Chypess, but this depends upon the kind of baths present.
In these numbers Plumbing is included.
Pneumonia. As might have been learned from the introductory observations there is no disease of the Pulmonary apparatus less influenced by climate than this. But before the publication of the Army Reports it was regarded, and is by many still looked upon as a disease of cold and variable climates, perhaps because within the climate does not vary their course with such fearful rapidity as in the Tropics where this one might be overlooked amidst the immediately common effects of Dysentery & Fever. In temperate climates the case is different as the following quotation from Grisolle’s works, “Enfin, pour le premier, le climat en Angleterre et dans le pays de Galles a mis, le Pneumonia est, comme les affections aiguës, une de celles qui tue le plus grand nombre d’individus jeunes. Elle vient immédiatement après les fièvres typhoïdées. On a calculé que dans chaque jour sur un million d’hommes 927 mouraient de Pneumonia, et que sur un nombre égal de femmes la même affection en imposait 741.”

In Canada the proportion attacked is high, but chiefly in cases formerly where equal 60
Maltese Islands 23 per 1000

Gebrütter 29
United Kingdom & Jamaica any small proportion but nearly climbed in Windward & Leeward Islands both in frequency & mortality.
In Martinique & Dominica Islands equal about 31.
In Bermudas a large proportion are attacked in most of the colonies about 30 per 1000 acres.
In E. Indies only 18 in Java in Sumatra Province 18.
In India generally about 30 per cent are attacked.
From this we can declare nothing.
In the usual service the proportion attacked person was South America 28.

West Indies 22.

Mediterranean 31.3

According to count table there must be some influence in the Mediterranean Climate unfavorable to freedom from this disease also.
Having been the influence exerted by climate upon the diseases of the digestive, and the other morbid states of the respiratory organs, we are in a condition to consider what influence it exerts upon the condition denominated phthisis, which is, generally, regarded as consisting in a morbid state of the circulating fluid and vessels by a fault, performance of the functions of one, or both of those important apparatus which produce or purify it, tending also, especially, to manifest itself in their structure.

There has long been a general and fixed opinion that some parts of the world are more liable to the presence of consumption than others are, and that such, especially, are those whose climatic is cold and variable, in opposition to warm and equable regions. It must not be supposed, as many seem inclined to do, that this and no grounds, whatever, for such an opinion; it is on the contrary, one supported by a number of facts.
there are so many exceptions, as to render
such a rule just posible trustworthy; and
we shall see that many of the coldest
spots of the world, and, at the same time
most variable are less affected than others
whose climate is completely the reverse of this.
From such an impression arose the practice
of sending not only patients threatened with
that there also attacked and even dying by
this disease, to warmer climates, a practice
which was based upon the supposition,
that warmer air was less irritating to the
lungs than cold, and productive of so little
benefit air almost of so much.
Mischief air. In most cases, that the wonder
is that physicians could have so long acted
upon so clear an expectation, as hoping
for cure, where at least it could help
be expected to take place when the more
acute state of the system.
Statistics have shown that such ideas
were altogether erroneous and they have
been in consequence much given up, instead
the tendency seems to lie to return to the
unwarrantable conclusion that climate has little or no influence upon the prevalence of Pittius.

In investigating the comparative frequency of this disease, in different countries, we shall, on all occasions, where we have been able to obtain them, prefer exact & numerous information to the mere opinions of authors, however authority of credit, those may be, and however long their experience of the diseases of the countries of which they write may have been, for more extended observations have demon-

trated that such are often very far from what is actually the case. I do not, however, consider that we ought, in the absence of definite information, to refuse to give them their due weight.

The statistics upon which we shall in all cases rely, practically, for our conclusions are those of the British Army, at its various stations, then which we could scarcely wish for better information, for we have here a body of men in the same circumstances, as to age,
food, dress, dwellings and employment. It would be unfair to take the amount of Putin's observed among them as standards of the extent to which it prevents among the general population, for there is drinking in the condition of the soldier, which precludes him to a greater amount of leisure especially of this form. It must also be borne in mind that in many of such elements, the European is less rowdy, so that we should some have or former occasions, try to ascertain the present of the leisure among the native troops, if we have since been here, the regiment cannot be regarded as a native of the country, or valuable here in this employment.

A very common sense of confusion in most individuals is the distinguishing between people of Putin, pneumonia. They are as doubt the same disease but it seems probable that the climate favours the one and quieter the other manifestation. Notwithstanding the seconded immunity of my districts, I think we may conclude that
The following table will give an idea of the prevalence in different parts of the world, amount admitted and dying per thousand.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Deaths per Thousand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada Lower</td>
<td>7.2</td>
</tr>
<tr>
<td>Upper</td>
<td>5</td>
</tr>
<tr>
<td>Mexico</td>
<td>7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>6.4</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>6.5</td>
</tr>
<tr>
<td>Malta</td>
<td>6.0</td>
</tr>
<tr>
<td>Jamaica Islands</td>
<td>5.5</td>
</tr>
<tr>
<td>Bermuda</td>
<td>8.3</td>
</tr>
<tr>
<td>St. Helena</td>
<td></td>
</tr>
<tr>
<td>Cape Town District</td>
<td>5.5</td>
</tr>
<tr>
<td>East Frontier</td>
<td>3.0</td>
</tr>
<tr>
<td>Nature (Hottentots)</td>
<td>3.0</td>
</tr>
<tr>
<td>Mauritius</td>
<td>7.7</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>7.5</td>
</tr>
<tr>
<td>Windward Islands</td>
<td>9.1</td>
</tr>
<tr>
<td>Jamaica</td>
<td>12.9</td>
</tr>
<tr>
<td>Cayman</td>
<td>5.5</td>
</tr>
<tr>
<td>St. Thomas</td>
<td>5.5</td>
</tr>
<tr>
<td>China</td>
<td>5.7</td>
</tr>
<tr>
<td>Tennasserine Prov.</td>
<td>1.1</td>
</tr>
<tr>
<td>Malakas</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Note: The specific values for each region vary, indicating the prevalence of the disease in those areas.
From these tables and other causes we shall just endeavour to form some idea as to the influence of temperature upon this Disease.

We have stated, that a hot climate is supposed to be unfavourable to the development of Pthisis, and that a change from a cold to a warmer one must be beneficial; it seems to follow from the form of these propositions, that a smaller amount of force ever exists, as we approach tropical countries, we have also stated some of the theoretical reasons, which induce such a belief, as the cooler qualities of air, and the less active state of the pulmonary apparatus. It will, however, be observed that, such an active wound, merely, tend to hinder the deposition of tubercles in the lungs, and not prevent the formation of the constitutional state, which is the cause of these being there, a tendency to such deposits from the blood. We therefore see that a country may be afflicted with Pthisis, although in that place it does not decline its presence in the system through the lungs, as we know that in our own country, it is at particular ages and places, more liable to affect other tissues, as the glandular. There
is reason to believe that this distinction has been too much lost sight of, and that it has often been concluded that there is no Pneumonia in any county, because it does not attack the Lungs—yet we may, however, regard the statistics of the Army, as referring only to the disease as it appears in these organs, only and we may suppose, that in general, external aerophylus prevail where the pulmonary affection does. We shall at the same time mention, when the one appears accompanied by the other. In the regard to the change of those already attacked by consumption to a warmer climate, even supposing benefit to be received from a general and calm atmosphere, is it not probable that such a change would be liable to weaken the patient by the fatigue, to increase the drought, long fevers, which we are so anxious to prevent, and the debility which so readily exhaust the patient would not likely be checked by the change of food and air. When tubercles have been deposited in the lungs, but, whilst they are still small...
and confined to one point, while the general strength is not diminished, I do not see that a change to a climate like Australia, Egypt (or even Russian and Canada) might not be supposed to allow the patient to prolong his existence many years or allow time for a spontaneous cure.

Dr. Burgess says in his work on the Climate of Italy, page 40: "It appears inconsistent with the laws and operations of nature to assert that the country in which an individual was born, reared and had previously enjoyed good health is no longer suited for him when afflicted with organic diseases, this appears acceptable, but when we look at the benefit derived by such patients in summer, is it not natural to suppose that should we remove them to a temperate country where the climate resembled that of ours? In summer we might allow a cure to take place? At any rate, I think that in those cases, where tubercle has not yet been deposited, but where there is merely a weakly constitution, under the climate where there is an constitution to spontaneous enlargement of the glands, from the decreasing which we gain..."
witness the letter to undeprive warm weather, we might expect benefit from change of climate. I do not think there is anything absurd in the idea, supposing that there was a less amount of prevalence of the disease in other countries, for some do in fact think that which has been put in practice, will do great benefit the removal of the gottrons or levers from dis. Facts where such diseases are common to others which are free from them. It must be understood that I am merely showing that it is reasonable to suppose from our former knowledge, that diseases of this nature might be less frequent in warm than in cold countries, among the native, and less apt to attack strangers from the latter, or even in some cases to leave them when already established.

We shall now see what light feet throw on this subject. And consulting the table we have given, we find in Great Britain we found the proportion among the Dragon Guards and Dragoons which are taken as the finest standards ever annals
the same as occurs in Lybster and Malta and at much more times in the Dornum
islands which are all subject to great
dollar heat. This is not dependent upon
any peculiarity in the mode of life of the
people for the results are met with
among the native inhabitants of Malta,
while most modern observers have tested
to the very great frequency and mortality
produced by this disease upon the European
and Asiatic shores of the Mediterranean
at similar results is obtained by examin-
the reports of the Navy employed on this
station.

Leaving this part of the world, we come to
the Western Hemisphere. There we find
the amount in our American Provinces
smaller than in Gibraltar notwithstanding
the coldness of the former; proceeding southward
we come to the islands called the Bermudas
which enjoy a warmer bent at oppressive
elements there we find the amount of the
infections exceeds more than equaling that at
Lybster and going still further south,
we come to the West Indies, where the sickness and mortality appears to be greater there in any other part of the world both among Europeans and Negroes.

Again, if we proceed southward from here through the United States we find that in the extreme Southern parts of that country the amount of this disease corresponds to that which occurs in Upper Canada (5 per 100), while in the Southern states, which are situated in an intermediate latitude and have an intermediate temperature, between Bermuda and the West Indies, there occur also a number attacked intermediate between that of those stations of the British army.

From these facts, it was thought to be proved, after the publication of British army reports, for the Western the United Kingdom and the Mediterranean, that be hot climate so far from opposing unfavourable to the development
of Pthisis, greatly promoted it, and that we
are proceed from a comparatively cool to a
warmer climate, the liability to this disease
increases, among both natives and strangers.
I am disposed to agree with the latter
deduction, so far, that I do not think that
the amount of it, which occurs among the
native population is smaller in the Northern
temperate regions, than in the Southern; nor
do I think that any advantage can accrue
from the latter to the former, especially, to those, in whom Pthisial
symptoms have manifested themselves.
All, however, we have examined, the results
obtained in the temperate regions of the Old
world, we shall not be in a situation
to decide as to the former deduction.
In Sierra Leone, comment on the west coast
of Africa the proportion of this disease is very
as it is in St. Helena, but in both of these
time deduction must be made, in the first
for the short passage, the disease has a
developing itself, coming to the British
line, or stay of Europeans there, and
little better, on account of the proportion of human diseases being less serious — it is still not prejudiced.
These, we shall afterwards speak of its remarkably small prevalence at the Cape. At the Mauri-
tries we find an increase, which cannot well be explained by any peculiarity in the island, although we shall afterwards state some circumstances which may help to explain it.
But in the East Indies we find a very small proportion compared with other countries, especially upon the peninsulas of Hindustan.
There is also little met with in Arabia, Australia and South America, less bitter not only from private information but from the reports of the men employed on the coast. We are certain of this fact. There is also a great deal of information tending to show that it is not met with in the interior of the African continent.

is very uncommon in many countries such as Syria Persia to
so that I think that upon the whole
we must conclude that although the extent to which consumption prevails is not lessened in the southern parts of the temperate region in Europe and America and in hotter hemispheres also in the sub-
Tropical & Tropical countries which lie to the south of the line, yet it is so in time of the old world with the exception of the Mauritus. and that from all accounts, with this exception it is so in those to the south of the Equator.

It has also been supposed that Ati is a disease of temperate climates and does not flourish in extreme ones as in a very cold atmosphere.

This is a very plausible theory and favoured by many accounts such as the ascertained immunity from the disease in the Faroe islands, although these can scarcely be called very cold. Many have been otherwise explained, and the accounts enjoyed by Arctic voyagers. A good many articles or notices have appeared within a few years as to the symptom of the
natives and civil population, generally, or, Can-
sce, from this cause, that the results obtained
from what occurs among the troops, though
they show that there is not so great a for-
mal as there might have been expected
from the idea of cold acting as a powerful
cause of the disease, by no means confirm
this, and admitting the fact it may perhaps
be explained by the observation made by Dr.
Mawe that this disease is not frequent in
any country in a transition state of civiliz-
ation. In Prussia it is true that Pthisis
pulmonalis seems rare that these seroplas-
mas are frequent and intense in its armies
so that here this form appears to take the
place of the other. In Sweden the disease
as it appears in the army is very frequent
and it must be remembered that
there the troops are in those native
country the Norway it appears to be rare.
From this we may conclude that Pthisis
in some parts, should it seems to prevail in
very cold as much as in temperate climate
Much importance has been attached to variance of temperature as a cause of illness, but as to the exact meaning of this term there seems to be some diversity for by some it is used to imply continual changes though of no great extent while by others the title of a variable climate is applied where upon the whole the temperature is pretty uniform but subject, now and then, as in the blowing of a particular wind at some peculiar season of the year, to a sudden and great increase or decrease of temperature. So the variability of the climate is often alleged the supposed frequency of consumption in this country compared with others, but if we look at Nova Scotia and our other American and Australian colonies as well as the Cape of Good Hope, we shall find them like the Ioniens all variable, and so then Bermuda (though this island does appear more so than imagined generally) Jamaica the Mauritius &c. The latter resembles more does not seem to have any great effect although it is probable that it might have done from many circumstances.
The only way in which rhagades, or excoriation, can influence the amount of Phthisis existing in it is by its influence in causing Mononchitis or Deconninck, but it is found that although it is reported that these diseases depended upon the inequality of the climate, still there are numerous observations in the reports showing that Phthisis prevails in places where Mononchitis and other pulmonary diseases are uncommon. Having excepted neither the amount or variations of temperature has much influence in causing these diseases, the next cause we must look to are the Hygrometric qualities of the Atmosphere, its Dryness or Humidity. Dryness, we have already shewn the disposable effects produced by too great a deficiency of the air upon the pulmonary mucous membrane.

Landor found Phthisis most common among those workmen as file-makers and indeed in them it was twice as great as among those who frequented those occupations obtaining air next ground or in water. This is used as an argument to prove the
the effect of dry air is evident, this disease
but we must remember that this can
certainly be explained by the irritating psoriatic
of metallic dust getting admission to the Membrane
granule Formelii. An example of this is afforded
in the remarkable mortality among those grind
ers at Sheffield, who are employed in what is
called dry grinding, compared with those
who make use of water, oil, or the wet
grinding. Mr. Thacker de not find the
same liability among glass-blowers, iron-found-
cers, who were less subject to the operation of
such matters,
There can I think, be little doubt, that
many of the cases of Consumption, supposed
to have been caused by too dry an atmos-
phere, are really owing to the irritating matter
entailed in it.
From the action of the winds and dryness of
the atmosphere, taken in connection with the
nature of the soil, there results a pheno-
monon which affects the climate of Maltos in
a manner strikingly esquisable to the diseases
and climate I am convinced is producive
of considerable influence on some of our diseases. I allude to the volumes of impalpable dust which float about in the atmosphere, especially in summer and autumn. Every wind which blows over the exposed salt surface of the islands takes up this dust, which is so fine, so light & so penetrating that the closest door does not offer an effective barrier to its entrance. The eyes and face are clogged up with it; it is forced through the clothes, and all parts of the skin are covered with it, and so it is its nature that it occasionally finds its way into the crevices of the best-cased watch, even in the pocket. When a damp, sickly climate prevails, we frequently see, or when the dew & mists are heavy, this floating dust is miretined, its pentastyle ocelles, and it is precipitated in the forms of droops giving fine music. We frequently see the plants & morning gazed with this precipitate.

If we look at Egypt, Cunustratia, the Cape we find that they are all very dry, and those are the countries we look Philippines is most near.
1. Moisture. Since we have found that a very dry atmosphere does not cause Puttise or favor its production, in any other way but that this disease is least frequent in those countries whose climate is firmer character, we are led to inquire whether Moisture has any influence on its production.

Notwithstanding the strongly expressed opinion to the contrary of Louis, I should satisfy myself by the perusal of some of the Military reports, that this state of atmosphere is a great accompaniment of Puttises, which I was anxious to believe was more common on islands than on continents, and it was only lately that I became aware that several authors, such as Philips, Willett, & Beith, had come to somewhat similar conclusions, and that several papers on the subject had appeared in the London Medical Gazette about ten years ago, but which, if I seem to have stopped, why do not anyone before the subject was completed. Mr. Bosclet mentions some particulars on this subject — he says "theoretically, I do not think..."
"A Treatise on Tuberculosis" p. 437.
it seems possible that the moisture of the atmosphere can be in any way essentially connected with the production of a rheumatic state from cold. At first light one would be inclined as I at first was to hold a similar opinion to regard the relation which we shall try to show, indirectly, as an over coincidence, but setting aside the important effects of moisture upon the electrical condition of the body which we explained in the introductory part of this thesis, there are other effects produced by moisture which must be considered. It will be remembered that we mentioned that Dr. Edwards had been unable to discover that less perspiration took place in a more moist than in a dry atmosphere from the skin, though we have the feeling if such be the case, but that less cold passes off by the lungs. We mentioned also the great effects that perspiration had on keeping low the temperature of the body and the uncomfortable feeling we experience in a damp room. It appears also that from these experiments the quantity of liquid which passes off from the skin is three times as much...
than what escapes through the lungs, so that if in a hot country we also moist, little will pass off by those organs, while the skin which should increase its function from the heat will, according to Celsus, cease being able to do so till some fully then when the air is dry. Mr. Canel's seems to think that the excretion by the skin will diminish. Prodigy in watery state of the blood, which the corpulence he relieved by the kidneys, but this will occur only in a cold and moist climate.

The writer in the gazette adopts the opinion of Dr. Boaunt that it is by the separation of the water from the chyle air its passage through the lungs, that the delicate albumen of the chyle is converted into the proper albumen of the blood.

In a moist atmosphere also, there is some of the air dissipated by the vapour, so that it has not the same effects when respiration.

I shall insert the following from Canel as it relates to a distinct true often attempts: "This question of the etiology of tuberculosis..."
is quite distinct from that of the treatment of pulmonary tuberculosis disease of the lungs and that the effect of the humidity or dryness of the atmosphere, in relation to the latter, rests upon other grounds, and requires to be considered separately.

I stated, in a former part, that the number of rainy days in the year is a better guide to the estimation of the moistness of any climate than the annual fall of rain, but this applies principally to the temperate regions and is also defective. We know the dew point is only one or two of the stations as great I think it better consider my the influence of winds & currents in sending a Plan. Hence, just to take the general Hygrometric character of the station as far as can be gathered from known facts. Thus we know that from their situation islands are moister than mere sea coast, the sea coast to inland district and that latitude. Levels are the driest, all coming to deserts we have already explained.

The atmosphere of Tropical countries...
is moister than that of temperate owing to its greater power of holding liquids in solution, and unless the temperature sinks low as at night it is not precipitated in the form of fog or dew. In Asia Minor we find a moist climate, and we find that the proportion of phthisis is greater than in Canada, or here. In Upper Canada there is less phthisis after disease although from causes we have already mentioned it is moister, that the lower provinces, but this may be explained partly from the milder nature of the climate, and the fact that these are by this disease are generally plotted to the latter in order to be combat. We have shown that water to be moist from its situation and prevalent winds, there there is more consumption than in Malta and other islands. In the form however, moisture is not infrequent from the heat of the Arrocco or hot winds which is moistened by the sea. By this we find the whole European coast of the Asiatic coast of the Mediterranean...
the climate, and it is agreed as we showed before that Pallas it is there very prevalent, while it is scarcely seen on the coast of Morroco where there is the disease from the Syphum

where it is the disease from the Egyptian
civilization, but here any from last having

passed over long sea; likewise in Egypt it
is said to be met with on all those

peoples, who come from the still more regions
of the interior, who probably are exposed
to it after the simulation of the Nile when
the country is still moist and cold, comparing

The presence of those countries such as the

Piraeus may be fancied from

the fact that in other countries the

disease die rapidly, especially in one so

more subject to cold as Turkey is, for

diseases of the respiratory organs, especially

Consumption, and of course countries except our

helps South America, are they able properly
to keep up their numbers, in fact to colonize

any country except thine to the Centre of

Europe, for it is well known that the

Negro race is, rapidly extending into Egypt

while in Saharan & other North and East.
Indian colonies, as well as in the United States, they are gradually becoming extinct.

Whether, after all, the Island of Madeira is favourable for Attius, is difficult to decide, owing to the contradictory statements made by different authors. There is also great diversity as to its Climate. From its circular situation, it is naturally moist, although the climate which comes from the African current, and differs from the divers, in being exceedingly dry, ought to have an opposite effect. Dr. Roxburgh relates that from must, dew, and other circumstances, it shows the moistures of the atmosphere; he says, "I should say that, in general, the atmosphere is charged with an innumerable amount of moisture. It never indeed appears in the form of mist, or fog, or any other form of sensible humidity, because the temperature of the air by which it is suspended is so admirably regulated."

From observing the dew point, the writer in Frederick Gregorius says, "The Climate of Madeira ought to be more procreative of Attius than the climate of the Cape and many
Many other countries, but still simply on theoretical grounds, the mortality from Consumption at Madeira ought to be less than at London. The rule upon which this is based seems to be that the prevalence of Phtisis increases as the difference between the mean Temperature and dew-point increases but this does not seem to answer in all cases owing as it is due to the great differences at the opposite seasons.

It seems probable that, from all accounts, a good deal, both of Scrofulous Phtisis occurs among the inhabitants, and that as a sanationum, it cannot be expected to be of as much advantage as among other countries, but here all is based upon probabilities, there being no proper statistics.

Memorandum. This climate would appear to receive a great amount of rain in winter, and to suffer suffer from drought in summer, still its equally climatic Winter, his general reader is assured, though he is not
speaks by which to attract trees, and owing to the porous nature of the rock the sea water penetrates through it, while many account for this being prevalent though not for its frequency being so great, which must in reference to the same causes, which cause such a predominance in the West Indies.

In these islands, especially in Jamaica, it is very common among both the European and Black troops. How this and the other are, essentially, most from their high temperature, particular situation, and then lying on the climate of the great Leeuwarden. The moisture is also attracted by their high peaks and luxuriant forest, which also keeps up a continual evaporation which that of the oceans is common. The onset of the climate assists, also to render the atmosphere at all times damp. There are also two rainy seasons and in Jamaica there are showers throughout the winter. It might be expected that from the large size of this island, the climate would be drier than that of the other [illegible].
but we must remember that a great amount of rain falls in the interior throughout the year from its hilly character.

We have, before this, alluded to the great similarity of appearance and climate found between this island and the territories which is situated in the same latitude, nearly south, that America is to the north, and there is on the prevalence of longating, also a further anology, but this seems modified by the coincidence of the hemispheres being in the southern and western hemispheres, when we have already shown Ethiopia does not appear to be as frequent.

Turning to the East Indies we find the greatest island of Bengal presenting, although compared with other countries it is small, a great increase compared with the opposite coast of the Continent, in the form the admissions being 5, and the deaths 3/2, per thousand, while in the latter the numbers are respectively 3 and 1 3/10.

These are, as might be expected, great
Omitting exceptions to...
Identifying exceptions to this rule, as we find the moist climate of the coast of Africa affords a proportion any small about 3½ being attacked but this is much greater than we find upon the Indian continent, and we must bear in mind that here the negro soldier is only removed from the interior to the coast of his native country while the stay of the European upon the coast is generally too short to allow of time for a chronic disease like consumption to show itself.

The next remarkable exception and one not so easily explained is that although the Senassemi Provinces of Beriman empire are perhaps the mostest countries in the world or at least those in which most rain falls yet there this disease is very uncommon. It is mentioned, however, that the cases attacked were uniformly fatal.

The next exception is in the case of Senem's Senel which from its situation and form would seem to be any moist and the deme is the general opinion with
with regard to New Zealand, these islands are regarded as exceedingly free from Ptilosis or Droptus. But we must remember that they are only lately settled, that a large proportion of the population are engaged in active employments in the open air, and that the towns are few in number and with wide spaces between the houses. I do not think besides that the humidity of those islands is really so great as it appears to be compared with the dry atmosphere of the neighbouring continent of Australia.

From a Report of Dispensaries given in the British and Foreign Med. Society, we find that the number of cases treated was greater than in the Dominion islands, in the capital of Van Diemen, Hobart Town, and in an account of the climate of this Island by Mr. Power given in the Dublin Journal for 18XXIII we are told that the disease is not so common as supposed, though more against air Europe.

I think that if urging were needed,
were made we should find scrophula, though not _Ptychon pulmonalis_, common in the Morvan empire and particularly the Geneserium province among the native population.

It so happens, that, we have few observations supported by statistics of much value which show the influence of a dry climate upon Ptychon, we have this however in the case of the Cape of Good Hope, which is as we have been exceedingly shy in going there as the much to as the atmosphere of Great Britain is according to the observations of Herschel, we have also a smaller amount produced in the Romain island than in the other Stations in the Mediterranean, while they are denied to receiveless immense quantity of rain although the number of rainy stays is greater so that this does not amount to anything, but the barrenness of barren of the islands must have less tendency to attract or give out moisture. Still with regard to this pump nothing satisfactory can be established.
We have already spoken of the security of Phtiis in the bottom parts and return of Africa, particularly in Egypt, and also of its infrequency in Australia, but from what we said with respect to the influence of an agricultural and still more of a pastoral life upon this we must make some deduction from the unfavourable ness of this climate to the production of this disease.

The same different parts of the same country, notwithstanding it is not found in all countries, particularly and some parts of France, that a less proportion of Phtiis and Sphatulina occurs in the dry than in the rainy years. Thus Mr. Phillips found that of 1,193 deaths from Sphatulina in England and Wales the deaths were to the population in five dry counties:—

<table>
<thead>
<tr>
<th>County</th>
<th>Deaths</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glamorgan</td>
<td>19</td>
<td>10,500</td>
</tr>
<tr>
<td>Glamorgan</td>
<td>19</td>
<td>10,300</td>
</tr>
<tr>
<td>Denbigh</td>
<td>12</td>
<td>12,250</td>
</tr>
<tr>
<td>Denbigh</td>
<td>12</td>
<td>12,500</td>
</tr>
<tr>
<td>Throughout Wales</td>
<td></td>
<td>13,400</td>
</tr>
</tbody>
</table>

Thus Phillipt & Bantzen in a note to their
article gives the following table
article give the following table

<table>
<thead>
<tr>
<th>Disease</th>
<th>No.</th>
<th>Otherwise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ind. cases</td>
<td>314</td>
<td>211</td>
</tr>
<tr>
<td>Tubercular</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Advanced</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Otherwise</td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>

Of 64 who lived long in a broad locality there died

Tuberculous 43 from Tuberculosis 21

Of 170 who did not live in a clean district there died Tuberculous 107 from Tuberculosis 66.

There would seem to show at least among children there is an influence exerted upon the depositing tubele.

In London the deaths from Scrofula were greater on the banks of the river, than away from it; in 1st Quarter 1836-5 in Battersea, 768, but Dr. Blane remarks that the prevalence of External Scrofula is no measure (accurate) of that of the Constitutional disease as the dampness of the atmosphere may cause a tendency to its localization there. It seems, however, that it is upon the whole in a pretty accurate measure and we learn, that in other countries, the Constitutional disease is manifested and the lungs is found to increase in frequency as the moist climate front of the country, thus in South Africa, referring to
I have been informed by a friend, who lately visited Norway, that in that country it is esteemed that Phalar is not common in the interior, but becomes more so on the sea coast.
In our account of the climate, we found that, from the proximity of the sea, the Cape District suffered little from the great blow to which other parts were subject. We accordingly find the variations from Bithia in the Cape district equal 5 1/2 per 1000 while in the Eastern Provinces which is more variable and exposed to great extremes, and also very dry, they only amount to about 3 per 1000. Again in the East Indies we have the following example:

<table>
<thead>
<tr>
<th></th>
<th>European Diet</th>
<th>Native Diet per 1000</th>
<th>Native Ad. Diet per 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Sea Coast</td>
<td>3  1.5</td>
<td>1  1.4</td>
<td></td>
</tr>
<tr>
<td>&quot; Planes</td>
<td>1/2  .2</td>
<td>2/5  .4</td>
<td></td>
</tr>
<tr>
<td>&quot; Pebble Sands</td>
<td>2  .7</td>
<td>1/2  .3</td>
<td></td>
</tr>
</tbody>
</table>

This shows the progressive diminution from an annual to a sea-coast and then to an inland climate in which order over the humidity diminishes. It does so generally also to a still greater degree upon the latter lands but in these there are two or increases in the amount of Bithia, for which we cannot account except by supposing that
Pallas has been found to be rather common in the lower range of the Himalayas, which was according to what has been said in every recent situation.
time Table.-lands terminate in chains lofty mountains, as they sometimes do and thus seem a greater amount of humidity by precipitation of rain.

According to different observers, scrofula, when it occurs in India, would appear to be more common in the humidor atmosphere of Bengal than in the generally dry one of the Presidency. The Brahmin thrones, which are used in India in curing these, are apt to become tubercular, as well as to degenerate, while the same is observed with regard to the criminal (wild) brought from more elevated regions.

It is also found that there are many other examples of this in other countries, and when the health of India as those employed in military service are stationed on the hills they do not seem to become affected with tubercle as they do when removed to a cold at the same time kind country.

Benedetone is opposed to the idea of Bacterium having any influence on the ground that the disease is found in moist districts after
to be more frequent in one season than in another, not by climate or even in the climate of a moist district, and that it is not those who are most exposed to the damp but those who are confined to houses who are most affected. Yet of course there may be something else which renders a place otherwise favourable more fruitful than one not so and the latter statement may not easily be explained by the superior strength and soundness of system enjoyed by those exposed to the air than those confined, and although this does not apply so much to infants, yet the exclusion of those ill conditioned and infirm expatriates much greatly tend to render a tuberculous state of system independent of any peculiarity of the atmosphere out of doors. This author also says that whenever brought to a cold and moist country and kept in a warm and dry place protected from the atmosphere are more liable to produce than those allowed to front of doors, but I think this may be explained in the same manner as among human beings.
Example of an error. Wherever it appears in any common text, the error is present.
From such facts we may conclude that
infestation exerts a considerable influence upon
the production of this disease.
We have now seen that Pthisis is not
much influenced by temperature, but that
with the exception of the warm Indies, the
Southern coast of United States, and the Maur-
itius it appears to be less frequent or non-
existent in temperate climates.
Indeed there is reason to suppose that in any
cold climate it is unfavourable to its develop-
ment, although, if damp, is very apt to favour its
progress.

That Variations of temperature seem to have
little effect upon its prevalence.

That a very dry atmosphere, if not cont-
taining sand or other irritating matter, has no
effect upon Pthisis.

That a moist atmosphere has a more
salutary, some influence, or else occurs in almost
all countries and districts where Pthisis
is abundant, and this is not only the case,
with regard to the external appearances, but
with respect also to the prime Consequences
We see also that the Northern hemisphere is more liable to it than the Southern, the more the Old world, and that throughout the African continent it is seldom met with, even in those parts, bordering upon Europe, or farther, we ought to say not their separate as well as that part colonized by Europeans. We have, already, attempted to offer some explanation of the startling fact that the West & East Indies which resemble each other so much in climate, are at the opposite ends of the table in the prevalence of Phthisis. With regard to the former it has been sought to be established that the climate has not so much influence, as some supposed circumstances in the habits of the old in those colonies and it has been found that officers suffer to a much less extent and that this is not merely the result of their being able to leave more easily, it is probable from the fact, that there is very little suffering in this respect among officers, while
it's comparatively frequent occurrence in the
Navy employed in those seas would lead to the
suspicion that the disease was not owing to the
climate, this last observation is vitiated by
the naval force in the West Indies happening
to be in the same command as that of
the North American colonies.

The proportion of officers and of seamen attacked
in the Mediterranean, shews on the contrary
that this climate is liable to produce Consump-
tion, and to be against the supposition that
the disease observed in the Prevailing as the
disease in different countries is due to the
manner in which the Soldier is exposed to
the ventilation of his apartments, and not at
all to peculiarity of Climate.

We cannot deny, however, that our
conclusions are rendered circumspect by the
concomitance of this and other powerful
causes, and that Climate has by no means
the great influence often assigned to it, indeed
in this, as in every similar investigation,
it is with great difficulty only by minute
juling facts that we can be able to disprove.
the effect of one cause from others, occurring at the same time and place. In the case of the British colonier, however, we have many of those profound effects removed by the influence of his habit's formation in every colony, and yet we still meet with distinguishing characteristics, or it is probable, that, by a more diligent comparison among the nations they would be found, which would explain some of the effects, now ascribed to climate.

We notice in the Poleska more the feature, that although very free from consumption in their native country, they are very liable to it, when they remove to another country similar to their own, or become healthy in a more temperate climate otherswise, etc.
As we have already incidentally made some observations upon a Change of Climate when Pneumonia is developed or threatened we need be but brief in this part of the subject.

We require to bear in mind that we wish to prevent or cure first the state of System and second the local Manifestation but these cannot always be separated, thus, suppose tubercle already deposited in the lungs, if we can inprove the general health and prevent more being deposited so rapidly and the patient is able to clear of a Spontaneous case occurring again in a place where the lungs are open to irritation the tuberculous matter will in deposited more quickly and thus exhaust the patient by its presence.

Although we have abundant proof in the opposite remedies that Pneumonia is too too very great or tent influenced by the alterations of climate and that the previous lungs Consumption seems in relation to that of the former climate, still air an refrigerated prime doubt especially where the lungs are
These persons although they may escape Pneumonia are very apt to be attacked with liver

diseases.
already unpromising, such observations are dangerous
and we should choose a Climate as free from
them as possible. We must, however, remember,
that a Change of Climate has an Specific Influence,
but merely allows of a greater amount of Species
being taken, and thus strengthens the System.
Before Tubercle has been deposited there seems
to be a likelihood that by removing to some
of the Places which we have spoken
of as any free from Consumption itself
such might be avoided. Thus the patient might
be sent to the Cape Australasia, Egypt, or
India where we have numerous examples
of persons who were freed from the disease;
the Inroads which were just about to
common have been harrassed by going
that country and it is advisable to hope
that many of them would have
been remitted at home hence because

Tubercle.

When Tubercle has been deposited,
but has not gone far, we may, I think,
still expect some advantage from acting
of Climate. If we look at the Number
of cases, which proved fatal compared with those
attacked, we find it very considerably in differ-
ent countries, but this knowledge does not pertain
to suit us in climatic changes. If we knew
the average duration in each climate it would
be more practically useful, and we do know
that as a general rule that the disease when
it goes on to a fatal termination reaches its
bomer in the Tropics than in temperate
countries. When therefore, the disease has
finally begun, we think it wise to send the pa-
tient to anew an exhausting climate.
We may however, prolong the patient’s exis-
tence and even, perhaps, give an opportunity for
the natural cure taking place if we ad-
move him to a place where the external
elements of his taking regular exercise out of
doors during winter. Most such places abroad
are too exhausting from the heat during
summer so that we require to remove to a cooler
situation. One great advantage in
Madeira appears to consist in the hilly
climate of the island giving both cold
mer and a winter residence, which prevents
the necessity of remaining at the hot seasons. I think that from what we have already mentioned, that a dry climate is of use in this stage of the country, as well as an equal one, and hence it does not seem to be of much importance, whether we choose a warm country like Egypt, always observing that the heat be not too great, or a cold one like Russia or Canada, for these are equally unsuitable to the ground being well saturated by the melted snow, the summer although hot, is not so relieving as that of our country where a degree of heat is combined with humidity. During winter also when, the ground is deeply covered with snow, the atmosphere is bright and clear, and exercise in clothes can be obtained without danger, by which means of exercise or by exercise on horseback, the system will be strengthened against the exhausting influence of this climate. I believe that the Cape and Australia would also be of value especially the
letter, but the long sea-voyage interfere with the benefit for it is now doubted whether such are not really prejudicial, especially when so long, and through many changes of climate, for although there is a comparative exemption in the case of the naval service with respect to this disease, yet the members of it are men in robust health and without showing any symptom of disease will act again the empleyed, for the pecuiliar system at present art the cause of “payaing off” a ship enables that service to get and get alike. When however, steam communication with the Australian continent is more communi- there seems no doubt that patients may be sent there with advantage and it is only that it is observed that by so doing they may need two or three years to their probable term of residence in this country. Perhaps the reason of the benefit being greater is that the fatigue required in keeping away, the business of life in a new country as well as turn out, and they ought receive some advantage, from their circumstances.
permit them to go out and not at the same time to engage in any occupation.

I believe, however, that such patients who cannot do this, will find perhaps a much better air in some portions of their own county, and at all events from the fact that their condition accords with the climate of the country is of

ceasingly benefit in this stage of the complaint.

When Pthisis has arrived at a further stage as when cavities have formed in the lungs, then such places in our own control are the only ones suitable while during the winter emphysematous to the hands or in one of the Sanatoriums. For

sore, while it is prejudicial adding as especial care be taken is one of the greatest value. The opinion of the air in such places is often thought to be a great advantage, but it seems that in some circumstances individuals of

degree of grave patience is cure possible. There is now not the least use and the greatest certainty of limiting the patient's position and adding to his
disease by removing him to another climate.
Of this many striking and gloomy examples are given by Dr. Morgues in his work on the
Climate of Italy. If the patient is determined to try the effect of change in accordance with
the peculiarities to characterize this melody
then let him try Canada or some similar
as even Panama where he will meet with
the same contrasts and obtain the same
kind of food he uses in his native
country.
Diseases of the Circulatory System.

Dropsies. These, as we are aware, are divided into general and local, active and passive, but these cannot be adopted in a statistical arrangement. In the Army Medical Reports, they are divided into dropsies of the chest, abdomen, and cellular tissue, but we shall take them generally, for the sake of simplicity. I shall observe, that in those reports, which refer to the East Indies, many of the cases classed as dropsies are reported along with the other but distinguished by the title of Meni Beni, a disease which we shall speak of at a later part of this essay, which is common in India, and of which Anaemia is a prominent symptom.

One would be inclined to suppose a priori, that in warm countries, dropsies would be more frequent in occur in them here, not only inflammatory or acute, from sudden or sudden check to perspiration, but passive also, from the hypertrophy of liver and spleen, so common there, and also that from the large amount of fluid which passes off
by the skin that such accumulations would in
some cases be exempt.

He does not find that to follow the order of freq
uency of other diseases, as such an extent, as we might
have supposed, for they are more frequent in
Africa & West Indies than in India.

It is does it correspond to the greatest amount
of fever, for there time there were admitted
of white soldiers from this disease 21 per 1000 while
the death were 4.3 per 1000

Of European soldiers 5, died 3

A large proportion considering the little

In West Indies, Wind & fever 717

Of European soldiers 5, 8 21

— Negro — 5 2.7 1000

This is 8 times greater than is found in Egypt,
but the large proportion among Negroes
shows that it is not owing only to fever, for
by the latter 717 Europeans per 1000 were
attacked & after Negroes only 16.8 per 1000.

In Jamaica, where fever is still more frequent,
eut, Europeans 5 7.2

Negroes 17 3.
to that among Europeans, in this island, there are not much more than half the proportion differ from dyspesty that do in the least commench, while the Perros, who seldom suffer from fever, comparatively have a much larger proportion of sickness than ality from this disease.

We must however remember that the genes of some places of have not the same tendency to produce engourments of abdominal disease as others have.

For instance Dyspesty fever has no such tendency.

\[
\text{Dyspesty = } \text{Ad. } 1 \text{ Died } \frac{7}{10} \text{ per 1000.}
\]

In the contrary that of some islands has a 

\[
\text{Proportion = } \text{Ad. } 2 \frac{1}{2} \text{ Died } \frac{5}{10} \text{ per 1000 last summer,}
\]

The great amount of fever this is a very small proportion 20 that the tendency must be 

\[
\text{Dyspesty Maltese also nearly equals it.}
\]

\[
\text{Ad. } 2 \text{ Died } \frac{10}{10} \text{ per 1000.}
\]

November 19 Brumwich ad 2 died 5 per 1000.

Canada equal the upper Homer II D " \frac{4}{10} "

United Kingdom " 1 " \frac{3}{10}

Deenland " 7 " \frac{6}{10}

Caris of Europe British Musicks and 2 " \frac{8}{10} \frac{2}{10} "

Subsequent development (2nd. Part) Add. 5 and 6.

Begin Add 25 and 2. 10

Genus vivum. 6. 7 4 70

A great many of the cases occurring in begins are to be referred to Meri Pemii.

There does not seem to be any good reason why there should be so great a proportion.

For though fever prevails there, perhaps extensively, it does not nearly equal in frequency

the Pomeir dwellers.

We may conclude that the greatest proportion exists in the Tropics both among Europeans and Negroes, that its frequency does not depend so much as might be expected upon fever though time allows one ought to be made for the different climates

that it presents in different countries, and does it depend to any degree on its general

and upon Asiatic diseases.
At Cape Dorset, tuberculosis seems common among the inhabitants.

A scene...
Rheumatism. The common exciting cause of this disease, both in its acute and chronic form, being especially to cold and wet, it is natural to suppose that it will be most frequent in those countries, where there are in greatest activity and sudden in their occurrence. This is, however, far from borne out by statistics, as the following table will show.

<table>
<thead>
<tr>
<th>Country</th>
<th>Proportion in Disease</th>
<th>Proportion in Climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>40</td>
<td>34.5</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>30</td>
<td>34.5</td>
</tr>
<tr>
<td>United King.</td>
<td>50</td>
<td>34.5</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>38</td>
<td>34.5</td>
</tr>
<tr>
<td>Malta</td>
<td>34</td>
<td>34.5</td>
</tr>
<tr>
<td>Bermuda</td>
<td>38</td>
<td>34.5</td>
</tr>
<tr>
<td>St. Helena</td>
<td>35</td>
<td>warm Climates exceed that in cold</td>
</tr>
<tr>
<td>Cape</td>
<td>64</td>
<td>34.5</td>
</tr>
<tr>
<td>Jamaica</td>
<td>29</td>
<td>34.5</td>
</tr>
<tr>
<td>India</td>
<td>42</td>
<td>34.5</td>
</tr>
<tr>
<td>Egypt</td>
<td>47</td>
<td>34.5</td>
</tr>
<tr>
<td>Tennessee</td>
<td>45</td>
<td>34.5</td>
</tr>
</tbody>
</table>

We see from this that there is no influence to be ascribed to change of climate. We know also from the most authentic evidence that the inhabitants of Cape and India are exceedingly liable to the disease while in the same proportion, we also find it very common at the Cape.

In the American Army, we find the proportion in the Southern States of the Union equals 119 per thousand, but in the
yeodles' Clinical Illustrations
p. 443
whole of it, we find these diseases three or four times as high as in the British service. Reason seems in other countries, to have little influence on it. In the American Army, in winter the average is 22.4 per 1000. In summer 21.0 only. It is observed the difference in favour of summer. In India, generally, it is to be remarked, that neither the occurrence of heat, rain or cold, appears to have any reference to the prevalence of this disease. In that country there is perhaps a fewer number of cases in the cold season. We may thus conclude that climate has little or no influence upon melancholy, but that the climate of India appears to be peculiarly liable to it, not from its temperature, but from some familiarity.

Gout, we have no statistical information with respect to this disease, but we find from good authority, that owing perhaps to the extended function of the Integumentary system it is not common in warm climates. This cannot be owing to the lighter nature of the food used for Dr. Dundas argues
as that the diet and habits of the upper classes in Brazil are exceedingly luxurious, and would be fatal, in some of them, at least, to produce in this climate a gouty state of system; yet it does not do so there undue leeway has been taken that he has scarcely ever met with to phosphorus deposits. He thinks, however, that on returning to the native country, Europeans are more subject to the disease than others owing to there having occurred during the voyage in warm latitudes an atrophy of the kidneys which are now less able to separate uric acid matter from the blood. It is also his opinion that when there is a hematuria precipitation or when the system is much deteriorated by gout, a long residence in a hot climate is of doubtful value.

Calculus Formations. From the similarity of constitution which exists in this disease along with the least we might expect also to find this manifestation rare in hot climates, and such it was long supposed to be and taking the facts for granted it was upon chemical physical logical principles. I think, however, that when we remember that when the urine is small in quantity it contains a larger proportion of solid ingredients we should rather expect calculi to be
The transactions of the Medical and Physical Society of Calcutta contain ample evidence of the frequency of stone in the bladder, both in Europeans and Asiatics. The splendid and numerous specimens in the society’s museum, furnished principally by Mr. Munro of Bengal and Mr. Mott of Madras, and the history of the cases attached to these specimens, bear testimony to the frequency of this disease, as well as the skill and success with which these gentlemen perform one of the most dangerous operations in surgery.

Clinical Illustrations

Abstract of Report by Mr. Currie
Ed. New Phil. Journal
more easily formed around a clencher. And such a fact to be the case, at least in Arabia, for there such clenches are found to be exceedingly frequent, and this is the country in which there has been the greatest annual age: faster gathered, but it has been observed in nearly equal in all countries. The contrary assertions that were on the result of suggestion and error. Of from any circumstances, general attention was more particular directed to particular diseases, this is enough to oppose to increase the number of instances. Thus for example during the life of a well-known letter-writer, Mory, it might be supposed that stone was a very common complaint in Holland from the fact that many operations which were then performed at Amsterdam. But after the death of Mory the number speedily declined to one half and the number is now reduced to a third.

This may explain in some measure their frequency in some parts of our own islands, but it appears that the food of the inhabitants exercise an important influence as in America, and this same fact is found to be the same in India.

Structural Diseases of the Kidneys. We have seen that Dr. Verulam has ascribed important disease to the atrophy, which occurs in these organs. By post-mortem exa- mination it was found that in five cases out of nine, after a residence of from bi to ten to nineteen years, I found
atrophy, in a greater or less degree, to have occurred in both kidneys. He also says that with regard to other renal diseases they are much rarer than diseases of other important organs. He has occasionally met, however, with Bright's disease. This is as we should expect from their diminished function and susceptibility in hot climates; one would think that the climate produced by cold weather would deepened the case that we occur.
The Investigation of the next class of diseases, Venereal affections is particularly interesting, as they are regarded as depending upon the operation of a specific poison the modifications of which by climate we are now to investigate.

It is however often difficult to distinguish what is due to the climate, from that, which depends upon the presence, or absence of certain circumstances such as the existence or non-existence of laws for the examination of prostitutes, and the extent and manner in which such regulations are enforced.

In some stations however, we have the supervision at all exercised by the police, while in others the mode of doing so is equally alike, and in such cases, we can make deductions without much fear of error.

In the United Kingdom we find the ad

missions for we will not here speak of the

dearth, the proportion being, of course only

from those diseases amounted to 1817.

and in Malta to where the same proportion

standing the existence of efficient police

regulations, while if we turn to the Sover-

eignies & to Gibraltar we find the proper
respectively, 66457 per 1000 a result which may be partly attributed to the greater facilities for preventing infection, but Major Talbot is inclined to think, that the elimination of as much as a third is not thus to be explained, as the habit of the soldiers must be very much the same in all, and what makes the elimination still more striking is that by far the greater proportion of these diseases are of that description, which may not have originated in improper contact, and that in some years, particularly prior to 1824, cases of decided general origin were almost extinct in the garrison. The Report of the Army also speaks of the infrequency of syphilis and the number of cases of lues, which occurred, many of which did not seem to be of human origin, the average ratio per 1000 was of the former about 50 and of gonorrhea 26.

Altogether, compared with the West Indies and South America, they were respectively, one half and one third more frequent, according to Naval Report, Bermuda. Here we have an increase of temperature but not very great. Here we find that there are no regulations of any kind, yet that the number attacked is only 39 per 1000.
In the West Indies the decrease is still better observed, for, in the Windward and Leeward Coasts the proportion is 35 per 1000 in Jamaica only 20 per 1000. On the former the following remarks are made. "The most remarkable feature in this table is the rarity of admissions under the head of Venereal diseases on this Command, which as will be seen by the general abstract of J&J to syphilis, tuberculosis on the genitals of doubtful origin, as well as lymphocele, thus indicating a connexion between these three species of venereal affections; and it is particularly striking, that though ulcers on all the other parts of the body are nearly three as numerous as in Britain, those on the genitals are eight times less so. That the rarity of this class of diseases does not arise from the increased temperature only is sufficiently evinced by the fact, that in the East Indies and Mauritius the ratio Venereal cases is greater even than at home. That it does not arise from any peculiarity in the constitution of the negro female, with whom the soldiers are generally in connexion, is also proved by the Troops being as liable
to it in the Mauritius, where the lower class of the female population are of this race; and it
cannot be owing to any prosecutuory measures for preventing the propagation of the disease,
because there are no Police regulations on that subject in the Command. The disease appears will here
after be shown to exist throughout the whole of the West Indian Settlements; and as those who knew
the habits of the Dolichus there would never think of referring this exception to any superstitious in
narrow extent, it must be attributable in great measure being unfavourable to the existence
of propagation of that disease. The disease peculiar
uniting has been remarked in some of the old Medical
We have, already, been how this result has
been borne out by the statistics of the Navy; we
also find that it is chiefly occurred in the British Sett. of the Station that is to say Brit
in the North America which is within the West Indian
command. I cannot quite agree with the writer
in supposing that not to be the probable cause
of this difference for we may by the Narine Report
that the admissions were greater by a half that.
Three of the Mediterranean, and, by a quarter, those of the South American station, which is weaker upon the whole.

Then on the west coast of Africa, we find the amount greater equal 69. But in the course of eighteen years there were only 4 cases among the whole T. three among the Black Troops of Primrose. In Bengal the amount 7.2 per 1000, and the Editor of Reports says that making the proper deductions of those among with it this description of Venereal Syphilis has for many years been unknown in the Island.

Having remarked that there was no great amount of venereal cases, so as to suggest any mistake, he goes on to say that remarkable exception cannot be attributed to demating men:

Centuries hence none seem to have been added ours can it be ascribed to any want of intercourse with native females, there being even greater than in other colonies. It seems only referable, therefore, to some peculiarity of climate, accidentally coinciding to the existence of propagation of Syphilis, or which, at all events, materially diminishes the usual susceptibility to it.
Some, however, seem to change this, it is not universal.
influence.

In the Tennessee province it is leaps, 97 per cent, but a great many cases came from another district. I am disposed to believe that the influence of the temperature is undisputed, as during the winter at the Mauritius plantation is equal 185, and that still lower than in great Britain. But at the Cape it is very high 210 the only explanation of which is the "dirty absolute" desert of the Hotetiol females, which causes the cases to assume a severe aspect, just as they are known to do in crowded towns in England. The influence of leprosy is another against the higher low increased temperature has anything to do with the lesser prevalence of those diseases in some countries than others, for in London in the same season cases are presented as summer than in winter. "Statistical Society" Journal, 1855. Could also this class is only half as comm. leaping the troops as in the United Kingdom: being the last Canada 99 for New Brunswick. The disease section 83 per 1000 in the former "epidemic has become almost extinct." There areas Police regulations, but it is supposed that its
sufficiency depends a good deal upon the statement at each post, not having the same opportunities of contracting it. Altogether we are not aware what peculiarities there exist in one country, in opposition to another, which renders these diseases especially that form denominated syphilis, so common in one and so rare in the other, but, upon the whole, we find that the very hot countries it does not seem so prevalent as in temperate; this may, however, be a coincidence and deem not aware of there is the same found in other very hot countries besides Canada. It would also appear that in general, relating to the general rules in infectious diseases, they are more common in dry than in moist countries, which may be more so as they are not carried by breezes of the atmosphere, yet does this think any of these reasons to be much depended on, as it may be a mere coincidence. Had we the reason at which they were most frequent, our knowledge might be, perhaps, a good deal esteemed on this subject. It is found according to the reports of the New York settlers that fewer cases occur, three
ne se substitue jamais à la sève vitamines de température climatique.
Diseases of Integumentary Systems. One might suppose that owing to the exalted function of the skin in warm countries, diseases of that tissue would be more common. According to the Army Reports we find in Canada 22 that upon the whole they are more common in cold countries, owing probably to less attention being paid to the function of the skin. In the United Kingdom 29 no less attention being paid to the function of the skin, the disease is less frequent. In the Bermudas 7 exemption also appears among the black races. Cape of Good Hope 14

December 14

Hartford 14

New York 16

S (*) L e m o n s 6

February 6

Descriptive lesions. As these are known to depart upon different occasions it would be interesting to know with certainty if they are also present among the troops in cold countries. But upon this subject there is no definite information as the proportion that snow occurs among the troops is less exposed with small, owing to the compulsory vaccinia among the Arctic troops, however, there is a great
reluctance to submit to the operation, yet in those few are attacked by Small Pox, which spreads by prevalent and deadly among the conscripts in that colony; it has also been found to spread extensively among the general negro population of the West Indies; this is as we should expect for in that race the structure of the skin is more perfectly formed, owing to its being the most important organ, for the passing of excrementitious matters which, when this function is destroyed by the eruption of Pox, must remain in the blood and cause great injury. It is found that the heat of summer accelerates this disease, but so also it seems does a cold winter, and the uninsulated matter does not seem to be the tropics to have been attended with any constitutional disturbance here.

Under this division we may make some observations for they must be briefly upon Ophthalmia or diseases of the eyes and in this we do so shall confine ourselves. Firstly to what is supported by statistics; taking thus of the British Army, we find that
Canada 45 Cape 32 they are by far most
Nova Scotia 51 Mauritius 32 common in hot countries,
United King'd 19 Mauritius 72 with the exception of certain
Hyderabad 97 Ceylon 70 Some where the disease is
Malta 102 Arabia 90 very uncommon. The great flow
Bermuda 94 Windward 89 uncommon. Of these sickness in
St. Helena 35 West coast Africa 82 the tropics would be better
been more it not that, in many of the stations, the
long prevailed a custom of artificially producing sickness,
next to obtain discharge from the service as in Bermuda
a quantity of pulverised blue vitriol was disposed in the
Hospital, and at all the stations the officers enjoyed
a remarkable exemption. This does not appear to be,
however, to explain altogether, the great differen-
the attacks in the Mediterranean compared with
these at home, for it is to be presumed that
they would be equally aggravated with such an
experiment, and I think we may conclude, that
as a general rule these sickness increase in propor-
tion and severity, as we passing from the cold to
warm countries. The great amount observed in
the American colonies appears to be against this
direction, but there the majority occurring early,
and are explained by the reflection of the sun's heat,
which is described by travelers, as very liable to produce it, as in the mountains to the West of India.

Dust has been thought a very common cause of these diseases as their frequency among the troops is thought to be partly thus explained, but, more likely, this is owing to the dry winds and the glare of the sun above the sand. The Cape is said to be very troublesome in this respect to new-comers but among the troops the proportion of sickness in this respect to other colonies is very small compared with other colonies.

We find that in hot climates cause such diseases as the fever arrises as in India the heat are much affected by it producing muchdiscouraging dependency on the part of the public. The troops are found in the least liable to enjoy comparative immunity from such effects.

From this we can pass by an easy transition to the diseases more immediately affecting the nervous system of those which we would suppose to be caused chiefly by climate, but we should not consider the growth of the night of the soldier have expected such diseases to have been common among them, they are so, however, owing to the number of cases of delirium tremens which occur.
<table>
<thead>
<tr>
<th>Location</th>
<th>Age (in)</th>
<th>Live (in)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>6 - 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>England</td>
<td>14 - 1.2</td>
<td>1 in 11</td>
<td></td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>11 - 1.3</td>
<td>1 in 11</td>
<td></td>
</tr>
<tr>
<td>Bermudas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gibraltar</td>
<td>6 - 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malta</td>
<td>6 - 8</td>
<td>1 in 8</td>
<td></td>
</tr>
<tr>
<td>Jamaica</td>
<td>10 - 1</td>
<td>1 in 10</td>
<td></td>
</tr>
<tr>
<td>St. H. Helen</td>
<td>7 - 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cape of Good</td>
<td>10 - 1.3</td>
<td>1 in 11</td>
<td>Native troops 4.</td>
</tr>
<tr>
<td>Mauritius</td>
<td>41 - 2.7</td>
<td>1 in 11</td>
<td></td>
</tr>
<tr>
<td>Barbados</td>
<td>18 - 4.3</td>
<td>1 in 4</td>
<td></td>
</tr>
<tr>
<td>Wind. Helen</td>
<td>28 - 5.7</td>
<td>1 in 11</td>
<td>Negro troops 10.22</td>
</tr>
<tr>
<td>French India</td>
<td>12 - 1.6</td>
<td></td>
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</tr>
<tr>
<td>Jamaica</td>
<td>14 - 2.6</td>
<td>1 in 15</td>
<td></td>
</tr>
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<td>Dominica</td>
<td></td>
<td></td>
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<td>Ceylon</td>
<td>10 - 1.5</td>
<td>1 in 6.5</td>
<td></td>
</tr>
<tr>
<td>Macras</td>
<td>18 - 1.7</td>
<td>1 in 15</td>
<td>Native soldiers 2 in 24 1 in 48</td>
</tr>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>
according to Major Bullock one half of the cases besides predisposing to others in the Windward and Leeward islands but deducting those caused by this this climate appears to have considerable influence in producing disease of this kind compared with the limited regions Owing to the conformation of the head the protection the protection to the brain enjoys specific thickness of the secundary the skull he is less liable to inflammations of this organ while the constituting food and comparatively uninflected climate of these inhabitants of most tropical countries render them but little liable to such diseases.

It is in such countries that the complete head chiefly occurs but the sudden disappearances in the idea of it would lead one to suppose that it's damaging effect upon the nervous system. A recent writer on cerebral softening states that whilst paralysis are most common in the tropics this condition of the brain is most common in the hot climates, and that he has seen this in young men who have resided in them for several years.

With regard to delirium Tremens its frequency
appears to depend much more upon the use with which alcoholic drinks can be obtained and the
consequences of this upon the climate of any station. It is less frequent in those colonies as the Cape
where good white wine is cheap and the introduction of this
and beer in the East Indies has diminished its prevalence
there.

It seems well authenticated that this disease
is not only more liable to experience from accident,
even a slight cut with a teasing instrument being suf-
ficient, in the Tropics than in temperate countries
but is apt to come on without any apparent
cause except perhaps exposure to the common causes of the
diseases, it appears however, to be quite as fatal
in the latter. A form of it is the Friesius having
a cause of great mortality among infants in the
West Indies and also in the Eastern islands;
this form is, however, met with in such a cold
country as Iceland, and is believed in the West
Indies to depend very much upon the use of

aromatics to the aliment of the colo."
Ballamale Outlines p.241

Idem.
if combined with moisture, after exposure to heat, for
such appear requisite in all cases of the diarrhoea and
when the diarrhoea from privies extensively "In all
tropical climates, wounded persons, particularly if ex-
posed during the night are liable to be attacked by
tetanus." In Egypt, Cases found it uncommon
there in the colder climate of Germany and chiefly
in damp situations near the Nile or near
Hydropoisons. We are from our youth to acco-
minate this disease with the hottest weather and are
apt to suppose that we must find it most frequent
in the tropics but this does not seem to be the
case nor are the greatest number of examples find-
to one part of the year. In tropic Egypt, Persia,
South America, and other countries it is almost un-
known although the cities of many of these are
infected with uncleaned dogs. It is by no means
common in this country but appears to be less
on the continent predominating among the farm-
population near large forests, and principally
caused by the bites of wolves. The dog, the
bites of wild carnivores and different
kinds of dog, are much dangerous as the canines
are most common in them,
Though a certain degree of heat appears favourable to the lesion of wounds as seen by the French Surgeons in the Egyptian villains yet a warm and moist atmosphere is prejudicial to Ulcers Abscesses &c.

United Kingdom 135 The only exception to this Nova Scotia 185 appears to be the Bemmers of this scheme as very accurate

Bermudas 191 of the above is very accurate

Gibraltar 101 information not having the key

Malta 147 report for their abscesses

Marseilles 191 The Report for the last Indies

Marseilles 74 is not finer than 1601 for 1602

Liberia 267 after strength are annually

with United 204 admitted from four that among

January 187 and many are exceedingly diffi-

cult of cure, in some abscesses scarcely yielding

to any treatment. They are aggravated by particu-

lar soils, and are regarded as depending very

much upon the blood atmospheric climate as

Fever as persons suffering from them are seldom

taughtered by their abscession. This may depend

upon other causes, as the same is true of other diseases
Fever. This is perhaps, the most important disease which can engage the attention of the physician in every country, but, especially, in tropical ones, and of this we have abundant evidence in the vast number of observations made, since theories formed upon them, here, also a restricted attention. By merely observing these forms, which occur every day called to treat, leaves the physician powerless when these have changed. We may enumerate three kinds of Fever, with which we are principally concerned.

Those are the Intermittent, Remittent and Continual. In the first, there are attacks consisting of a cold, hot and sweating stage of different degrees of intensity and frequency of recurrence, but between these there is always an interval of complete freedom from symptoms. In the second, there is an obvious period of repose while in the last it is entirely wanting. These forms are pretty well defined in this country through even in our Uppers there is in the days and weeks termed critical, or the rigor, which precede, the heat of the fever, often followed by precursory which accompanying the disease, an evidence of Prostration to the Normal type, as
the Intermittent form would appear to be. Yet Iplius appears altogether to differ in it mode of production from the continued fever of remittent, in which the analogy is yet more shocking to the Remittent & Intermittent as the two first can scarcely be distinguished, we shall accordingly consider them as well as the last together. Here we find a class of diseases which are traced to some external agency existing in particular parts of a country and absent in others, and which being naturally referred to some change in the composition of, or some poisonous matter added to the Atmosphere has been named Malaria. Miasm has also supplied but with a wider signification. This sy has long been sought for in the air and water but with no success though a plausible supposition was a few years ago made, that it was produced by the presence of Sulphurous Hydrogen; in the latter, this has however been completely disproved. The soil has also been examined but it has been produced where every variety exists, though we shall see that it is more common in some than in others. We thus have
thus been unable to detect it, but still we
know as much of it as we do of some of the medi-
cal plants which play the most important parts in the
chemistry of animal and vegetable life.
We know that it is most commonly developed
in marshy situations where there is much stand-
ant water, not however such a quantity as to
cover the ground but merely to render it moist.
It has however often been experienced where there
was no water but the soil peatish or even on
rocky ground as lead, springs which had dried
up, but even in such places it is probable
that moisture may exist at most of them
are at one time of the year flooded, these
also are found to be rather retentive of moisture
as clay which forms the soil of most of the
Aquilean districts of England, or sandy so-
es to absorb it easily and the rocks where
it appears to proceed from them are generally
calcareous.

2. Moisture appears not to be alone cap-
able of producing it but requires the aid of
a high temperature. Thus in England
the prime aquifers are caught only in summer.
or Autumn nor do they occur in most cold countries and we also find that the attacks
become more frequent as we approach the tropics
while there if we ascend the hills we have the
reverse order of change and at length as in any
cold climates disappear altogether a result we
cannot be ascribed to the want of moisture
as more rain falls there than on the plains and
is collected in valleys between the ridges.

Heat and moisture cannot be the only cir-
cumstances predisposing to its formation for we
do not find it produced by heat alone even in
the tropical climate of Guiana nor does it ever
appear at sea notwithstanding heat and moist
places. It has been supposed that the
agent acts by inducing decomposition in
animal and vegetable matters but this has
been found to be by no means essential as
it is produced where these are no such remain,

3. During its production stillness of the atmo-
sphere is at least favourable, but when decom-

lation or the wind blows in one direction
a current of air favours its coming over to
a distance, thus explaining the frequency of
of absence on the Leeward side of Marines.

4. It is heavier than air and keeps to near the ground, thus producing its worst effects upon the occupants of the lower floors of houses and barracks while at certain elevations they are not observed. It appears probable that it is discharged in the aqueous vapour which is not able to rise to a great height this is rendered still more so likely from the fact that

5. It appears to be formed in greatest quantity at night, this cannot be explained, that like other injurious agents it acts most powerfully when the body is less vigorous in a state of sleep, for travelled through the Breton Marines are attacked though quite awake. It may be that the cold renders the body more susceptible of its influence and any rate these seem our ground for the idea that the desire crops decrease it as it is known when they are most direct and powerful, it seems probable that as the centre is cooling from the radiation of heat whenever during the day the atmosphere near it becomes interior and some capable of dissolving such matters and
depositing them on surrounding objects.

6. He finds that it has a great attraction for trees which render cities otherwise pestilential from their contiguity to marshy free from its effects and others have been rendered uninhabitable from their being cut down.

7. It is washed by water so that helps a very short distance from the land areas quite remote as fact which renders it still more probable that it is carried by aqueous vapour. He mentions to mention that marshes sometimes overflow by salt water are more hurtful than those any where else. This may be owing to the quantity of vapour naturally given out by the ocean distilling it more easily or from the saline matter greatly increasing its solvent power.

8. As a general rule it is diminished by cultivation probably owing to the obstructions of moisture away as in North America where rivers are very frequent, more so indeed in the Transition State than when the forests still existed owing to the action of the dew on ground not imperfectly cultivated. And this is strengthened by its production in places where evaporation occurs.
It is mentioned in the Medical Report of the Navy on the South American Stations that there are all the so supposed cases of malaria one there in their greatest perfection; it is not at all found I suppose in the Western Ports.
on in certain soils as for the growth of Mice. If as
Annals supposes it is often greatly caused by putrid
spoil animal remains as of insects the increase
of growing plants for the use of animals must
 tend to remove their elements.
9. Besides inducing fevers and other diseases in
those exposed to its influence, it exercises a slow,
prejudicial effect on those who remain in such
a district, inducing hypertrophy of glandular
tissues as the spleen though this may partly
explained to the action of fevers, rendering them
clumsy & leucophaeometric, in fact inducing
a sort of enfeebly well seen in the change
forms, callus leukemias & brief live of time
who like the Vibes inhabiting the Asiatic
pimpls are constantly exposed to it. Mr.
Griunning considers this as a cause of the dif-
fevility of tending European children in India.
Though apt to suffer from the typical
forms of disease they are not as liable as
Strangers to be attacked by the fever itself,
but from statistics it appears their length
of residence in such countries rather dis-
poses the European soldiery to its effects.
A good example of this immunity from the fever itself was afforded in the Peninsular campaign, where the natives were so surprised at its prevalence in the British army that they attributed their sickness to the eating of a poisonous fungus. The Negro enjoys a great freedom from the influence of Malaria, and that in every country, except the explanation which has been sought in the structure of his skin, for this is not enjoyed to such a degree by the natives of the East Indies, who, though they suffer less than Europeans, are still liable to its effects. It is not to man alone that such a power over useful as even the brute creation seem to suffer from it, as seen in the degeneracy of the breeds of domestic animals in Malarious countries, this may vary much more, however, be owing to the influence of damp ground, just as we see it among them in low situations in this country, and I am not aware that this has been observed in Malarious countries which are dry but in India it has been observed as stated in Heber’s Journal that at the seasons when the jungles prove dangerous to man they...
I have been informed, in the [illegible], by the Surgeon of the Steamer La Plata, which has lately attracted so much interest, from the extent to which fever prevailed in this vessel. In which he mentions that stations where coals are stored, the disease is inexplicable produced—that it is one frequent in them, there in [illegible], vessels but attacks the other if employed in carrying coal. That it is noticed to prevail extensively after the coal has been wetted, and the states that with this in the case the engineers are aware that sickness is apt to prevail among them. He states, the ships in which yellow fever has broken out & finds that most of them have been Steamer, on days it has been noticed that when a
are likewise, deserted by the birds & wild beasts.

Like other causes of disease it is most apt to affect those whose constitutions are weakest, or who are at the time debilitated by intemperance, or depressing mental emotions, and has also its latent period; but differs from other poisons to which the human body is liable, in that the circumstance of having once produced their effect produces no protection from its further influence.

We thus see that Malaria is produced in greatest abundance and most often in a marshy country but not while there is much water covering it, for it does not seem to be generated till it has been dried up by the sun for some time, and many swamps and districts are healthy as long as the swamps remain full and become prejudicial during rainy seasons when the ground begins to appear at the centre, whereas a fact that explains many apparent contradictions in the account of the climacteric seasons under which it occurs. We have also seen that an elevated temperature plays an important part in its production.
Number of ships are lying together the cannon is most ready to attack colliers
This is interesting as showing the effect of most were upon him and some some weight to the idea that vegetable effluvia favour the production of the mechanism rather
With respect to the Fevers, we have mentioned, we find them to be produced as far as we know by the agent we have been considering regulated by the laws we have just spoken of.

We are of opinion that those three forms are produced by the same agent modified by different causes and perhaps produced in different places.

It has already been mentioned that endemic Fevers are contracted in very cold climates, and even in England they are only seen in December and January. There also the disease is termed a Concussion Ague, which means that it occurs on alternate days; in warmer countries it becomes a Quasian Intermittent that is there is an interval of two days; this variety depends upon organic disease in many cases. When we come to the Rhodolindows we find the Intermittent form prevalent though the Fever is still common, and even Yellow Fever has prevailed as at Gibraltar. We may accordingly suspect, that the Intermittent Fever requires a higher temperature for its production than the Intermittent, and we find that, in the domain islands the former is chiefly enquired to become the latter, to winter and spring, and that those who have
Dr. Dunshe formerly of Baker and Knowe at Newport seems to think that fever is caused in people set by miasmas at all hurt by a cold wind acting upon the body when exhausted and perspiring. In support of this he says that villages contiguous to the sea where there is no breach, or merely a strip of sand between are affected when the sea breeze blows, and that to be this explains the fact that fever is more apt to be produced at a more elevation than on the surface of surrounding country this happens may be otherwise explained. This hypothesis seems to be ingenious and agrees with what Dr. Edwards observed of the action of cold and damp air in producing intermittent action as acting on animals, producing a strong pressure on the nervous system.
the first form, at former season, are very liable to
have ague in winter. This also seems a strong
argument in favour of their identity for Barbara
found that "in the case of relapse the intermittent
of one admission has occasionally become the
Intermittent in the remt. & vice versa" page 89.
Intermittents are common in all hot countries but
not to the exclusion of Intermittents.

A further exemplification of the action of heat in
producing the difference between these two kinds
is found in the fact that the Intermittents do
not extend on the tropics above from 2000 to
2500 feet but before that have their place
taken by Intermittents.

Another remarkable circumstance seems to be that
Agues require for their production not only less
heat, but also a greater amount of moisture
for in all the places, where they are found in
this country are clumps & marshy and the
process of drainage has extinguished them from
others as East Sothian, where they were
not very long ago very common. They are like
were teved upon the moist country of Gea


level and the marshes of Holland. In the low
islands they are found to prevail at the closest seasons and the elevated ground in the
West Indies we have already seen to be much exposed to rain.
On the contrary we find Murrinettis in many
countries, as Spain, where there is little or no
moisture, or any decaying animal or vegetable
matter; we have, however, mentioned some circum-
stances to show that there is generally more moist
weather there we would suppose from the
dry appearance of the ground; we must also
remember that they seem in the Mediterranean to have a particularity for the neighbourhood
of the sea coast where there is always moist
air which may readily be condensed in
the cold nights although during the day
all appears dry, and we know that in the
Gypsies it is produced, where those circumstances are in abundant operation.
Still this will not explain all the cases,
and we know that when Murrinettis are
common as in India they occur during the
rains while the Murrinettis do not
come into operation till the ground becomes dry.

It is likewise very probable that there may be some other mode of conveyance besides aqueous vapour, especially, as we shall see cause to think that there are several varieties of the Malarious poison.

There is another form, where the symptoms are more severe, the symptoms usually absent or not well marked and distinguished in most cases by a ting of yellowness in the skin and in the mucus where are vomited from this last appearance, it has been generally named Yellow fever. The first this disease occurs in the warmest climates and generally at the hottest seasons and it has been observed to class appears on a sudden falling in the temperature while it never extends to a great height, generally giving place to Remittents. It has been thought to be confined to the west Indies, some parts of the American and African continent appear occasionally in such countries as Spain, but we are assured by many observers that this form is most bothwhile in the East Indies,
thus, Mr. Measham could not distinguish those forms of fever, where the yellowness or other symptoms were present from those been in the West Indies. This fever is not met with here, except at some of our ports, where it has been brought in the West Indies. But, Dr. Henderson is of opinion that there is great probability of its existing this country, should circumstances exist to favour its appearance as it has done in parts of Europe where the temperature is not greater than our own.

The great question is whether Yellow Fever and Remittent are essentially the same or different. A number of writers are inclined to the latter view. I believe, however, from the testimony of others that they are the same the former being only an aggravated form of the latter arising probably from a difference in the poisons produced by more intense heat and other circumstances, also all attempt to distinguish them have proved only productive of confusion for instance the com

failure of the Army Report is of opinion that many cases put by one Medical
officer in the category of Yellow fevers would be placed by an exhibi in that of Remittent. It has also been noticed in Brazil that the epidemic fevers of a place put on the character of Yellow before its appearance. The view of Dr. Greville seems very just, he says: "In many situations it appears to be the result of these intense and long continued solar heat, in many warm and tropical countries, especially the most severe and fatal. Remittent becomes epidemic during the long prevalence of intense heat and drought. Remittent Fever in this case becomes more an atmospheric than a terrestrial disease; and there is strong reason to believe that it passes by insensible degrees into the violent and rapid form of Fever denominated Yellow Fever or Black Domit." He also thus sums it up: "If we compare carefully it without fear the Summer and Autumn Remittent of the South of Europe, the Mediterranean fever, the Tropical Remittent of East and West Indies and Central America, the Bachman fever or the fevers of Sierra Leone, Fernando Po on the one hand, with the Yellow Fever of Cuba, Gibraltar, Malaga,
We have appearing at times in this Country a fever where there is great excitement and no apparent state. This is found in its poorest form in the European, on his first arrival in the tropics, and appears to be caused by the excitement produced by the increase of temperature.
Carthagenea dyshym and that of bona croy bar
among Jamaica, St Domingo & the West Indies.
generally since the United States on the other we
shall be unable to discover, in their essential
ymptoms & effects, in their prognoses and Pathol
there any real difference in kind and merely
differences in intensity, degree, rapidity of progress
and generally of course.

p 180

The form of Fever, so prevalent here named
Dyspeps appears in its genuine form to be
absent in hot climates, but many of the cases
of continued fever in the tropics partake of this
character. It possesses a peculiarity in its history
which seems to distinguish it from all others
which is its mode of propagation by contagion
which does not seem to exist in them to the
same extent, though there seems an opinion
that the Yellow Fever might in so country like
this become contagious, but if this there is no
proof. We shall not enter into the question
as to the relation between the various kinds of
Fever, or its various complications of chest,
head or abdomen while different symptoms
present as their distinguishing characters.
He goes on to take a brief view of what is acknowledged, with respect to the relation borne by the Plague to Climate, on which much has been written and many contradictory statements made; we shall, however, at present, upon the proofs of its being in certain circumstances infectious, which seems very probable.

This disease seems to be confined to a small area beyond which it is never produced de novo, but when it occurs, has first appeared in its birthplace in the cities on the shores of the Levant, indeed, from Constantinople, it is said, like Typhus, in our large towns, never to die out completely, but that its embryo are seen occasionally showing their presence by the occurrence of incredible cases, and the strictest quarantine has been found unavailing in preventing its production in Egypt.

We may accordingly I think with justice ascribe it to some agent produced by circumstances peculiar to those countries. It has been a general opinion that this disease is confined to the Levant. There, however, seen an account of a disease...
called the 'bubonic plague' occurring in the bulky country of Guiana, in the North West of India and differing very little from Plague in its history.

Supposing that plague-like endemic fever is produced by some means, how is that formed? From observing its occurrence in the narrow streets of Eastern city, where all sorts of filth accumulates to accumulate and that, it is most ripe, when the droppings which bacteria putrefaction of the decaying animal and vegetable matter, helve. Some have concluded that it is produced by such changes. This opinion derives some support from the fact that this pestilence has not visited London since the building of better streets and efficient drainage after the Great Fire, which occurred there, and we know that the putrefaction of very concentrated poisonous matter from decaying matter as in manure yards has often caused severe diseases of fever, not unlike Plague in some respects.

However produced, there seems to be some Malaria generated for we find Plague very
much taking the place of Remittent Fever, in the places where it is endemic, and when that Fever occurs in Egypt it has so appro-oximated to Plague in its characters, as to be mis-
taken for such by the natives. It is, like Foul, a, also, favoured by a certain amount of moisture for it occurs, principally in Spring and the begin-
ning of Summer, when the soil must become it decreases in very dry weather, and though in the case of Foul, there is a remarkable exception, has a preference for the moisture of the dry coast. In these it may be thought rather to differ from Remittent, which we have seen, often occur in the desert soil, but it only think that the parasites are similar and not so nearly allied as that which causes Leprosy is with that of the Remit-
tent, and, at any rate, a certain degree of moisture favours the production of the latter Fever.
This Pinnion is even less liable to be produced in a colder climate than that of endemic Fever, for it appears only to spread to such countries, when circumstances are peculiarly favourable, it is also checked by very cold weather and
delled, occurs till the winter is over, at the same time, it has been known to prevail, when snow lies on the ground but in those countries such a thing does not long continue, and it is at least probable, that the infectious lytic poison may have taken place before the setting of such weather. It is also not produced, when the temperature is very high for we see it only in comparatively temperate climates, for the district in India is so far from its elevation, it is likewise found to decrease in warm dry weather. It breaks out occasionally in our epidemics, but generally from which outbreaks seem to obey a periodicity varying in different situations thus in Egypt they are found to occur every fifth or sixteenth year. In its native country according to the best authorities it is not contagious, but when it spreads to other countries it certainly is so; this may perhaps be ascribed to the greater carelessness of its sick at such times, but then it ought then to be equally so in Egypt, so that there is a probability that colder climates may tend to give
at the power of spreading by contagion of which we see many similar apparent examples.

Cholera. On this disease so much has been written and so little ascertained, that we shall not go into details. Though this is a disease, which has been destructive in every country, yet it seems only to arise, or never quite die out, in the Indian peninsula, which it ravaged many years before it made its way to other countries. The great epidemic which first did so, appears to have originated in the countries on the East bank of the Ganges, spreading over India gradually South, West and again North, appearing at Pernambuco and extending to countries North of it. Appearing on the Sevastopol in 1821, then proceeding Northward, reached England by Russia and Poland in 1823. After this it appeared in France and extended to Russia during another year. We thus see, that it pursued its way through countries of the most opposite character, exchanged a peculiar feature in its history for the most closely defensible of other countries, even the Plague itself, has failed to do so. Even the deadly yellow Fever cannot have a certain latitude, unless under peculiar cir
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circumstances nor can any similar eventful period.

It seems probable, however, that the person who
we presume to cause the disease is modified,
at least in some of its manifestations, for we
know that modes of treatment, which have in
their time been ascertained to be successful in the highest
authority, have here found useless, and the two epi-
demics which have visited this country differ
in this respect, but here the constitutions of the
people may have changed. The severity with
which the disease raged in the West Indies during
the last epidemic will be remembered, we shall find
that the mortality it caused in other countries
was very great and seems to have exceeded that
of cold elements, so that the disease seems
to be produced in greater intensity in hot coun-
tries in cold. It is stated, in the Report
of the Health of the Army, that it had not
then attacked the South American command
where also epidemic fever was occurring, though
the usually regarded causes were all present.
It also prevailed with great severity in countries
where there are diseases apparently caused by
measles, endemic, while rendering it probable
that such an influence gave greater prevalence to the Choleraic poison.

It is also the generally expressed opinion of medical practitioners that Cholera is not at all contagious, as recent in the individual. Reports on the subject, but we have evidence to show that here it is to a certain extent, as for example at Havannah, where it was carried once procured a few cases, but there having something acting to enable it to extend among the population at large, left entirely but returned when in turn, that influence appeared in the Epidemic. From these facts and from others there does seem a probability of reconciling the discrepant statements of observers in different countries by supposing that, like other poisons we have spoken of, the Choleraic can be carried about by fumes or from body of sick without being decomposed, in a cold climate, as it became to be in a warm, if this be the case, a company of low temperature seems to be required.

We find Cholera above a preference for some parts of a country, district or town, choosing the dampest places and filthiest parts thereof.
epidemics do; it generally follows the course of war, at least in the East, a fact which has been attempted to be explained by their being in those countries the chief medium of human intercourse. It now remains for us to make a few observations upon certain diseases which are not only specific in their origin to particular countries or districts in other places similarly situated, but which are not known ever to extend over others with the same in which those we have just been speaking of do. One of the most important of these is *bronchecolle or goitre*, a term which is improperly applied to several kinds of enlargement of the Thyroid body but is strictly confined to enlagement hypostrophy of the organ. *Bronchecolle is a disease, which (as a writer in the Brit. Med. Journal. Quarterly Review) has always appeared to us to be particularly interesting, and the study of which ought to be...*
valuable, not only because of its external properties and the que it is distinct and positive character, which few other diseases possess, but also as being evidently connected with certain physicalcircumstances in the countries in which it prevails, which are not of being determined, and through the study of which, we arrive at facts not only sufficient to explain the causes of disease, but also to throw light on many pertinent questions relative to the influence of physical agents on human life. This disease has long been known in Switzerland and the south of France, in Derbyshire, in our own country, as well as some places in the Highlands, but as the account, as yet been very particular. In South America, both on the banks of rivers, and on the elevated country alone in the island of Demerara, and along the hills in the north west of India, from the left bank of the Ganges to the North of Tibet and from the provin-

A semn 27° N Lat. 93° E Long. to 30° N Lat. 78.25°
E. Long (Leslie) in fact all over three countries to China and northward to Chinese Tartary. In some of those situations it has a dreadful complication. In most cases that of Catarisim
a general deformity of body & mind generally commencing in early youth, but sometimes existing at birth. If this we shall, however, deduce when we have been somewhat of the supposed nature & causes of this, since long remained in obscurity, and clout not seem quite ascertained through by comparing the disease as it occurs in different parts of the world, some progress seems to have been made to this curiosity, while a number of hypotheses based upon limited observation have been swept away for well limited inquiries, confined to those countries with which our local circumstances may have been so connected, be sufficient to induce us to arrive at any conclusion that will stand the test of time & enlarged experience. As well as on the contrary, we must trace its prevalence not only through our own internal districts, but along the valleys of the Alps & the Pyrenees, but pursue the inquiry on the elevated plains of Columbia, amongst the lofty Snow Peak, and every other and eminence, and as displayed in the long, before us, as well as a view in the deep & narrow valleys of Oregon & the great aduanal Tropical valley of Neclud, and the lofty table lands...
Thus since the time of Plato as my favourite opinion has been that it is caused by the use of wine water but this has been disproved by its being found in deserts where there is no wine and it being absent in Greenland and Lapland where it lies so long. It cannot depend upon a mere mountainous situation as there are many in which it does not occur. It has been supposed to be owing to the cloistered haunt of light and air along with humidity of the valleys, altogether, through these seem favourable circumstances for it is found close in those which are open and in India it is seen high up the mountains a fact which the rhyme has contrary to the assertion of former travellers been proved to apply also to the Alps.
Again it has been supposed to depend upon the food but this cannot be the only cause as Mr. McClintock found it in districts, where the food of the inhabitants was exactly the same, as that of those of others, where it did not exist, that of the camel, mainly
of mixed water. That it cannot be in the face
used we have further evidence in the domestic
remnants, being affected with swellings of neck
and holo of ear. From such facts Mr McColland
was led to direct attention to the water, used in the
different districts to which the natives turn out
to trace this and other diseases. Being at the
time engaged in a geological and topographical sur-
vey of the province of Kurnow, he formed that
although there was no external difference in
appearance between the affected and healthy
districts but that the rocks of the former
consisted of Limestone which accounted for
the hardness of the water, drank by their
inhabitants, he found also small villages
where one caste had no goitre matter but in
it slightly while another was greatly affec-
ted, and discovered that the latter classes
drank the common branch water while flour
at, but heat the second clearing the water
beams were allowed to use water brought
from a distance by our coaxing.
Numerous similar instances are mentioned
by Mr McColland while the same lies
has been observed in England and in many
lands it has long been noticed that the waters
of such districts are peculiarly hard, now they
may be denatured so by bitter the carbonate of
lime; it seems the latter that does so for the role
of gypsum just described by McLeod and turned
out not to be salt also the report of a Con-
gression appointed by the Secretion government to
enquire into the subject of Extensive states but
not with the same pleasantness, that the waters
of such districts were calcareous.

Strangers coming from the surrounding county
become affected with such enlargements
of thyroid and to also the cattle brought
from the plains. An example is given by
Dr. Michelson in the case of the Indiens
who became goutrons in one year by drinking
from a particular river and those enlargements
are removed by a change to a sound dis-
trib. In an inquiry ordered by the Austrian
government in 1844 at Sparta near Klagen-
furt. one of the witnesses says that their servants
who come from other parts of the country
were soon observed to have large cheeks and
if the remainder to become jowtrous, at the same time the knees became swollen, the feet became affected with lacerating pains, became stiff & feeble. In proportion as the state of feebleness & stiffness increased, intelligence also became enfeebled; after the lapse of some years until was altered to a degree so considerable as to pass into obtusion."

He goes on to observe the same degenerations in the lower animals, especially horned cattle, to a degree so great that it is impossible to rear young cattle without remarking signs of growth internal diseases, and that it is necessary to import from other quarters animals for draught." Ed. Meat & Day. Journal vol. 76.

According to Mr. Fulk the beds of limestone capable of producing the disease differ in the several countries thus in Hesse-mer and Switzerland it is the Jurassic limestone; in Wurttemberg the shell limestone; in England, & Belgium the Magnesian or Dolomite...
Those who inhabit the deepest and most
remote valleys are reduced to the lowest state
of sinistral and rotation, while, in those who
are somewhat more elevated, the mental powers
are not as completely obstructed; and others, still
more elevated, and of course more exposed to ex-
tractions, will probably be deformed merely
with scars and of swellings about the
joints, and other symptoms of Rachitis.
Those who are nearer to the summits
are perfectly exempt from all these appear-
ances.
We have already mentioned the leading features of Cretinism, now what relation does this affection bear to Monochord?

It is generally admitted that Cretinism bears exist except in the spurious but that spurious may exist elsewhere where there are no signs of Cretinism. Thus in our own country it is not that with it seems more frequent in Switzerland than in the Himalayas, yet Mr. Bremnerly found that even in those who had not this complication this existed as want of energy & quietness becomes less from chewing a tendency to it.

I believe this disease is found along with spurious green up the hills in America but I believe not so in Switzerland at any rate it is found principally in valleys that in my Mountains ill ventilated I exposed to the sun and at terribly time change I am quite aware that it occurs in open valleys sometimes but more commonly in those of opposite character. In Scandinavia conditions they have been found to be as theu described them. The valleys must infected one three which are most steep, most confined, most humid, and
It appears that this disease was observed about the same time that Pickets was the England by litigation. According to Dr. Hunter's Eye Practice.
thin which are most deprived of light fair."

Now these last just the circumstances in which the
polishs children in this country are very often placed.
And to these is added another very powerful cause
of their affection lasterity for it is noticed
familiarly in similar situations" and there put
quoted states that there are stagnant waters
near ut the villages where it exist. It may be
owing to this that it is most generally seen
attached houses held in towns.

When we remember that the patient are
generally young we should be inclined to
believe that as the scrofula there must
be first some lesion of nutrition. Now Dr. Be
Chillers could observe no difference in this
form of districts affected of the time act, but the
Londoner report attaches more importance to
the influence of insufficient or improper diet
and says that the secret of rise here cannot
be obtained, but, that they are obliged to
live from the beginning to the end of the year
on nothing else but a little indigestible mixture
made from the meal of the three-chamber
with some milk, often mixed, always
Species of cheese, and sheet animal food is hard to ever seen except in the shape of dried fish. Afters Patrick Feife, occasionally eating goat's flesh, and on rare occasions the flesh of the charr, in some of the districts, the inhabitants eat as food the 'pernott,' a species of aliment which could not be used if food were abundant.

When we remember that the Patents are among children one may conceive how unfit such victual is for the events of the system. Goat vi Menge there is no gluten and butter exists also a quantity of useless resins in water.

I do not think that the thing of the field land, though it may explain the prevalence of goat's in some districts, altogether accounts for it; there must be some other agency at work. Namely, there we have mentioned Bals 4, but all for me they be present and absente in different situations, for goat's is not with every where there is water, is proper with Carbonate of Lime. I think also from there considerations and from the relation it has been found to occur to Desophulur in those countries for Dr. Freyling found that among the
In a recent work it is observed "The seroplasms forming tubercleosis are frequently endemium, which is accounted for on the principle that independent of habituation, occupation, habits, life, the disease is attributable to the want of change, and accordingly of purity in the air itself."

The localities in which the disease is endemium in the valleys of mountainous countries, where the air is constantly stagnant, humid, and corrupted; and in other situations where it is renovated with difficulty, thus the entrance of the valley or street is only occasionally in the direction of the wind. Thus are Mr. Mendelocyn's views and his also states that renovation of air is not so easily accomplished as might be supposed, requiring wind and currents. Hence ejected the agent passing with the object of cloning the appearance of phosphorus with Cactium and Releapina from Mr. Cuscell's work on Enchonkias.
Lycosomes, who had no symptoms of Contumacy, there were evident marks of Storme and then coming on after they had been attended with M совенности. For instance they had the lymphatic fluid affected, now it being the probable that scrophulous matter may also at a later period be detected in the Pterygium. The state of Lymen seems to approach to collect accidens which appears to have at first connected to certain ponting of Europe.

The post mortem appearances are, the Cerebellum is thickened, the volume of the Brain is smaller and its substance ater extremely left. Furthermore the glandule blooms upressis from before backwars and expressions of countenance, amounting the fruiting of body expected while it is itself generally better now.

The reason for a disease of a comenent kindred amongst the

Pelaeans as its name implies consists, apparently only of an avolent of the skin with eruption but this only accompanies various disorders.

St. Gregory in “Speaking Of the Kingdom of France” barely, after dwelling on the former profit, no
thus account to this disease. “But this fatal garden
of the Hesperides is not exempt from human grief.
There is a disease I might almost say ubiquitous
to the soil of these charming localities and the
surrounding country worse than death.”

The Coctias or the Balsas, (scorpions) are fortunate in
their affliction compared with the Pellagrosis.
It is said to be confined to a space between
the 43rd and 44th degree of latitude, but it seems
very similar to the Mal de la Rosa of the Adrian
as in Spain and is said to be making its way
into France. The course of the disease is as follows.

An eruption appears in spring and becomes
during the winter when the patient seems
in his usual health but after the second
or third winter the period of absence becomes
plainer while the skin becomes rough and
wrinkled. The patient also begins to be affected with
headache, giddines, impotence, and pain
in back; different joints painfully. The digestive
organs are disordered; the appetite is insatiable,
insatiable, and there is great flatulence and
constipation of the bowels. Generally, the food
is reduced to porridge undigested and
unappetizing.
the affected person may seem robust, general convulsion takes place, the perspiration has a peculiar odour in proportion with bloody matters.

So this is enjoined a gradually increasing and suddenly ending in madness somewhat like what occurs in fevers but apparently a more violent form than more cooled. It differs also from this aspect in its occurring at a later period of life than in quickly destroying the patient for the Excitans may live to one old age and what is more are not more exposed them others to disease, while the reverse is the case with the Pellagroosi who are not able to bear any increase of heat or cold.

There is considerable doubt as to what is the cause of this disease, some are inclined to refer it to the diet used that of maize and state that it is quite a modern disease not having been taken till maize was introduced. But that part of Italy this disease is like that of subject to a disease owing to the growth of a parasite like the hog which is supposed to cause a feverous action similar to what occurs in true parts of Norway.
and at any rate is not sufficiently nutritious.

It seems also that Popovic's experiments, to prove that the more constant use of this diet like any other might have a similar effect. It happens, also, that these foods are not only abundant in insufficient quantity.

Now I think I think this must be a very powerful cause, especially as it does not resemble to an extent in the neighbouring districts where maize is not used, but there seems to be some influence exerted by the climate of those districts even more important than that exercised by the food at least this is the opinion of the physicians of the country. They assert also that the disease did not appear till long after the introduction of maize but this may be explained by supposing that it took several years before its use became so general or it constituted so great a proportion of the food of the population as it does at present. Examples are also cited of other places where food is equally nutritious but without development of this disease. A circumstantial account of its being owing to the food of
of the poor is, that it is seldom been among
the rake, which has also been observed in
a slighter degree, in Cretanis Trophulus,
but with the exception of one mode all who
have studied the question reject the idea of
this being the cause of the disease. I see no
objections however, to consider it as aiding or
cooperating with the Climate.

This is generally where the disease abounds "humid"
"ventilation difficult" these regions being bounded
by high Chains of Mountains. Dr. Reinert thus
describes it, "Without being positively morbid
it is dense, close and the districts of Stilum
Liri, Peduc, Terni and Termoli in which the
atmosphere is inpregnated with humidity from
frequent inundations, most pestilence, stagnant
waters Nvic fields furnish the greater number
of Bellerophon invalids. It is also stated by Hil-
learned that the first appearance of the
disease may be referred to their period at
which the practice of preventing agriculture
became most general in Lombardy, and set
the same rate less the severity of frequency of
the disorder increased. It then seems in short
from observing the phenomena of many analogous situations strong reason to presume that the effect of residence in such situations is not only to enfeebles the energy of the skin, to prevent, repress or change its circulation and secretions and thus render it more liable to various disorders, but to alter the circulation of the great external skin, and thus to lay the foundation of a complex cachectic disorder.

Dr. Burgess relates a case which shows well its dependence on climate.

A peasant of Lombardy was attacked by this disease in a delicate form. He entered the service of a family in circumstances at some distance from his native place, and was not long in regaining his former state of health. Thinking himself cured, in few years after this he returned to his home, and to his original mode of living, when the disease returned as speedily as it had disappeared before.

The resented service, was again ensued and returning home lost his health as before.

The patient now made up his mind to
Although constitutional derophtiases is more common in girls than in boys. External derophtiases is more frequent in boys. In which respects, there is a greater disposition to the attacks of psoriasis and eczema.
abandon his native place, and go back to him for the remainder of his life. After this he was never again troubled with his complaint. This case is applied by Signor Belardini the great advocate of the Meige theory in support of it, but mere change of diet could not do all, indeed the man must have been comfortable enough in circumstances in his own country wine because to enemies to reside in it.

He see many analogous points between this disease and Cretinism. Between the two they are very like. Thus in all the foods is insufficient in quantity and quality, the habitations are uncomfortable, situated in (as a general rule) confined often cold and damp situations, indeed in all virtue seems a prevailing element. They differ in the period of life of which they occur but that may be owing to peculiar circumstances in each, in some bringing fever and in others deterring the manifestations of the disease. Hence Pellegrina and Cretinism are allied and issues from the only diseased which the Cretins are much disposed is the eruption of Pellegrina. They symptoms in Pellegrina on
Developing themselves much more distinctly than in consumption and may be regarded as an acute while this latter is a chronic affection an idea which is borne out by the result of Post Mortem examinations in which these conditions marks of inflammation of the nervous system along with absence of abdominal disease occurring what we found often in devouring children.

There is another malady occurring chiefly in the Tropics but also found in France known as

defra tuberculosis this is by some authors held from Bacterium which he says is more common than at in warm countries that it begins in a speckling of the extra & gradually attacks all the joints producing leucoderma to I suppose I do not understand the distinctions amongst some of these diseases but I think we may trace an analogy in time to the two last diseases we have mentioned in their nature & probable causes Mr. Brett (incipient diseases of digestion)

The causes of this disease are involved
ni considerato obscenity. "Les Alimens de
Riovaise nature engendrent, a la longue, tous les
Symptomes de la lepre" is the opinion of Alibert,
whioh Escof + Rehov then acxuall as Hindu's
writers conitide. The emology of the pecular opm
of sympome affecting the extremities ci certen-Jap
of Exmo + burnt and caused by the use of
a common article of diet in those countries.nts
right in a diseased state, termed the eye. Pye
would seem to point out the excessive pressure
that is a probable cause of the disease. He
then goes on to state the ill effects arising
over bars on the system such as the presence
of the disease in where the rice is cause. It is
likely also that in such circumstances the
climate must also be unfavourable. From
Elephantiasis appears to be much the
same kind of disease.
There are a class of diseases endemic in limited districts of certain countries which seem to be modifications of the Bubonic form.

1. Libbias or divers. Condyloma on rats with a peculiar white velvety appearance in guineas lead to the infections by using some species of pork. It seems endemic in Dumfriesshire, Argyllshire and Galloway, also in some parts of the Highlands of Scotland. It is found also to be met with in districts in Canada and Norway, but it is a mistake to suppose that it is identical with the Guinea Pox of that country. There is a disease somewhat similar to this found in the Tyrol and Lombardy.

The guineas of West Africa's coast of Africa, East Africa, &c. seem something of a sort, but not more prevalent.
The Poodleye or March's sickness of Armenia was long thought a variety of syphilis but Dr. Ajpirt has proved that it is a distinct disease having different subdivisions according to appearance of eruption. It is most common among the labouring population. The predisposing causes are a very cold climate and the excessive use of ill cooked and rewholebone food (puddings) while the immediate exciting cause is in all cases cold.

There is a disease called the Begger's Lepra peculiar to that island of which little is known in the north of Russia there is what seems to be the same disease called to be caused by the use of puddings in it as in almost all the diseases we have mentioned, except the Poodleye & leishmaniasis affecting these seems to be a derangement in the structure & functions of the generative organs, even though these be no mimicry.

The Plica Polonica occurs chiefly in that country causes are not well known. I can say that having already extended this essay to anulu d'Amato not go on as
I had intended to speak of the situations and climates, in which other interesting diseases are endemic.

Some of those diseases belong to the Nervous system such as that termed Parchons which is found to some places in the East Indies. There seem humane to be diseases of the creature also in other places as the South of Muscat.

There is also the Parchons disease to which we have adverted before. Parchons and described by the Maloumian and which seems peculiar to the East Indies.

This seems a peculiarity common to all of the races with the exception of Soudan and perhaps Persia, that they are confined to a short distance from the sea coast.

There are also diseases owing to the presence of water: The worms that infect the human body seem most common in the tropics where they are not confined to the alimentary canal but can be found in other parts as the Guarian worm which is not confined to Africa. Even in Europe the two species of Guarian are not equally common in different countries and climates.
We have thus been the assiduous in which
different climates tend to favour the diseases of
which we have information, and the way in which
these diseases are modified by climate and their
frequency of occurrence, their rate of progress towards
a termination. In this point, however, our data has been
insufficient for any deductions and their mentality.
We have found that the number of these attacks
and those who died by any disease did not follow
the same ratio in different countries, but that as
may be explained easily, this rather increased in an
inverse manner.

When we look at those diseases which seem to
us to depend so much upon climate and climate
to how small an extent they vary we are tempted
to conclude that climate has an influence. Some
but if we look at other diseases and at disease
as a whole we must acknowledge the power
of this agent. In one class of diseases it is this more
evident than in that of Fever, for which there no
cause generating those peculiar to particular countries
as mightily barrie to the progress of civilisation and be removed. Perhaps I may have been thought to
insinuate this Malaria is always connected with non-
are, this idea by no means do, but merely think that such agent is present in sufficient quantity where we might suppose it altogether absent.

He has attended to the circumstance that the regression, which has been found to suffer from all other diseases to a very great extent is proof against Malaya, where he is removed from his native country. This has been supposed to depend upon the texture of his skin, but when we remember that absorption might still take place from the pulmonary lung, we must consider this explanation inadequate, especially as the other Black races have not this property to the same degree.

It has been shown that plants cannot become acclimated, and the British reports would show that disease is most frequent and most fatal among Europeans who have resided long in the tropics, the Editor accordingly concludes that there is no such thing as acclimatization. He feels, however, that reports prove too much, for the same fact is found true in temperate climates, where such is not observed among the civil emigrants, and if we bear in mind what these Reports also shew to the strongest light, that the effects of vitriol are not felt so much at the time, as in after
I am not certain that a lower temperature may after a time be attended with the same results as a high one, this is I believe seen in the case of Siberian strikes.
life, and the extent to which soldiers are addicted to this, we will see that this standard is by no means to be relied upon. We certainly find similar results among the officers of the East India Company's services, but we have only to accede some of these descriptions of Curwen and others of the antilopean habits of this class to understand, without any difficulty, the case. I think there are instances of exacerbated as in the case of Repoves who have not been brought direct from Africa to British America but just to the Southern States, and the general impression that the children of Europeans born in India are best fitted for the climate.

I, however, agree with those authorities and write to Johnstone as to the constitution ofDean being an exception for his native country, for I think it is true that even in those situations where no Malayan spirits, a continued heat of its too stimulating propitious eventually produces deleterious effects upon the European constitution we find however that the white races have far greater power of bearing a change than any of the black ones. It is strange that an extremely low temperature is consistent with the support of good health