The Climate of New South Wales, with special reference to its influence upon consumption.

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It has appeared to me that our knowledge of meteorology has made such strides of late years, and so carefully are meteorological records kept in all parts of the civilized world at the present time, that the main thing in addition necessary to constitute us the possessors of a complete scientific and practical acquaintance with the different climates and localities to be recommended as sanitaria, that is, the probable suitableness or otherwise of such to different constitutions and diseases, is not to be acquired at so much from lengthy descriptions of the prevalent diseases in different places, a system of dealing with the subject adopted by many writers whose works form the only procurable information regarding the less known Countries of the Globe, as by careful records of the results of actual cases.

If barometric, thermometric, and hygrometric observations, recorded for any given length of time, were capable of forming a sufficient basis upon which to deduce, as to the certainty of any particular Climate or locality agreeing
with any particular individual, suffering from a disease calculated to raise the question, a decision might easily be arrived at, with regard to almost any district of any civilized country, or of any country in which European civilization has established a foothold; for even in those places, now rapidly decreasing in number, in which the Government has not up to the present time recognized the importance of superintending the compilation of such statistics, individuals may almost everywhere be found with sufficient scientific knowledge and enthusiasm to do so.

Every day the leading newspapers in the great centres of population, produce their meteorological report, with a weather-map, showing the Barometric and Thermometric Curves, the amount of rainfall, the direction and force of the winds, with a weather-forecast upon which, from its general approximate accuracy, the public generally have come to rely.

But this is not enough.

Professor Scafe says, "Climatic Treatment
is entirely a question of individual adaptation; its problem is, to determine which residence would be the most appropriate to the patient in question. (Pulmonary Phthisis, p. 316-316)

By this I understand that & experimental element to be referred to, which enters into any change of residence, for no one can say positively that any particular climate will agree best with any particular case, and doubtless, in this direction, occasional disappointments will continue to be our lot; but in order to eliminate as much as possible this element of chance, knowledge of the common experience in similar cases must be our guide.

Secondly, two places can be said to possess exactly similar climates.

Soil, elevations above the sea-level, amount and direction of exposure, proximity to or distance from the sea, and latitude, all make their modifying influence felt, and whether these factors, or climatic laws which they are statements in practice, to place upon record their experience and conclusions, together with the facts upon which these conclusions are based (by which
course unconscious prejudice in favor of or against particular localities would have its affect reduced to a minimum), a novel device advance might be made in climatology, and direct to think, then, apart from the abstract interest of the question, such records would be of great practical use to medical men residing in Great Britain, by affording them a reliable guide in the choice of sanatoria for those of their patients for whom foreign change is deemed advisable.

The need for some such systematic record, is rendered obvious by the well known fact that while the virtues of new sanatoria are being continually vaunted, in both the professional and lay organs of the United Kingdom, scarcely a year passes that some well known, and once trusted resort, is not found wanting, and consequently to otherwise, as the unanswerable logic of actual result slowly make itself heard.

From some such considerations as the foregoing I have been led to select as the subject of this study the Course run by Patriotic Pulmonatics in the more elevated regions of New York, also as shown by an analysis of such
cases as I have had the opportunity of personally observing, and as these are necessarily limited in number, have, by way of strengthening my case and rendering my subject more general, procured through the courtesy of Mr. Coghlan, the Government Statistician for New South Wales, a specially prepared report as to the Total Deaths and the Deaths from Pneumonia in each District of the Colony during the years 1887-1888. In order to illustrate the application of Mr. Coghlan's report I have prepared a map showing the Districts, into which, for the purpose of Registration, the Colony is subdivided, and have appended to it as a key a copy of the Report with the addition of the altitude, distance from the sea and rainfall of each centre of population referred to, which latter information I have obtained from the Results of Meteorological Observations made in New South Wales for 1887 by Mr. Russell the Government Astronomer, and published by the Government.

My observations do not include a large number of cases, but I have no doubt that so far as they go they may be taken to represent a fair average, although it was some selected cases.
For an opportunity of observing several of them, I am indebted to the courtesy of professional friends, and they are selected in the sense that no one of them has been under observation for less than one year continuously, and in consequence they do not embrace the whole number of cases which have come under my notice.

The reason for this selection is at once apparent if it is borne in mind that the influence exerted by the climate being the point which I am desirous of demonstrating to cases observed over a shorter period, it might fairly be objected that any shorter period would not afford a fair criterion. Any notes of cases have been kept since my first arrival in the Colony in the year 1852, and I have prepared from them a tabulated report in the classification of which I have followed out to a great extent the mode adopted by Dr. Theodore Williams in the last edition of his "Practical Consul. tori" (C. B. Williams & J. Theodore Williams) in so far as any modest number of cases will admit of, and I have refrain from
Transcribing my somewhat discursive notes of the individual cases.

The classified results of my cases, as stated, with two exceptions, upon the cases of patients 19 and 28 show the disease has declared itself, prior to arrival in the Colony in most cases, and in the remainder prior to arrival in the district in which I reside to which my remarks more especially apply. Most of the patients 19 and 28 whose disease occurred out of Australia, have come from Great Britain on its account, and the fact that only two patients, natives of the Island, have come under observation is in itself strongly significant of the practical immunity from the disease which prolonged residence in the district in question is capable of conferring. The smallness of the numbers while dwelling from the weight of their evidence as regards the favorable course usually taken by the disease, being counter-balanced by the negative evidence which they afford of its rarity.

To be more explicit in defining the objects of the following pages, I may add that I hope to show, by statistics of undeniable accuracy and the actual results of personally observed
Casso as regards the modifications which present themselves in the climate, frequency of Rhodias Palomarion in the Island of the Leeward of Australia as compared with the well-known corresponding characteristics of the climate exhibited in Great Britain. The climate localities situated on the elevated plateau to which Humid are second to none in the English-speaking world, with the possible exception of certain localities of the Rocky Mountains, such as Colorado and 4 the elevated portion of California, in the community which they confer upon their residents from the dangers of consumption, and in the curative effect which they exert to a remarkable degree upon those of its victims who submit themselves to the climatic influences which here prevail.

In addition to this my principal object, I trust that it is in my power to show that Australia generally is favorable to Consumption, and shall endeavor to eliminate the principal causes at work.

While expressing my belief, that in common with certain other climes, the one of which I write is capable of curing Rhodias, I should
be understood to imply, that this result is brought about, not so much by the exercise of any specific climatic influence (though to a certain extent and in a certain sense I believe this influence to exist), as by the removal of the exciting or existing cause, by the substitution, for less, of more favorable climatic conditions, and a more suitable soil, leading to the ability and inclination to enjoy an open air life, and as a consequence to the improvement in all the vital processes, sufficiently great as to build up a condition of the constitution potent to check the prevailing tendency, when, hereditary or acquired, in a large proportion of cases.

The capacity to resist the disease attacks for any length of time removal from the conditions which have contributed to its alleviation or cure, will of course depend upon various contingencies, the vitality of the individual, the amount of damage done, and the constitutional predisposition present, being amongst the chief. In some cases I believe that the disease is permanently and unconditionally cured, for
I should think that the resolutions of At-Post-Nonum Zone have effectively discredited those who were at one time inclined to attribute recovery in a case of Pthisis Pulmonalis to an error in diagnosis, but the great majority of cases, especially when extensive desorganisation of lung-tissue has been arrived at, the predisposition undoubtedly remains in full force, or at any rate so strong as to render any attempt to again make it an unmanageable climate extremely hazardous; for probably the result in the large majority of cases of so-called "cure" in advanced Pthisis is not absolute removal of the disease, but rather the quiescence brought about by the drying up of the tubercular deposit, which remains capable of at any time resuming its activity, under the provoking influence of unfavorable atmospheric conditions. When a practical trial has shown that this suitability exists, the place should be uninhabited for as long a time as possible with the view of obtaining all the benefit which such a residence can produce. This rule implies a complete revolution in Climatic Therapeutics and yet what can be more natural, more
Sample, I should almost say more elementary.
In such cases the climate is the remedy, if beneficial why should it be changed? So do this would be most unreasonable." Second Pulmonary Tuberculosis 9.315-316

Although the climate of Algeria and the Orange Free State closely approximate in most respects to that of the Australian Lebland, yet personal considerations render Australia a much more desirable place of prolonged residence for natives of Great Britain, for these cases in which a return home might reasonably be feared as likely to produce a return of the disease, remunerative employment can in most cases [I refer to male patients] be obtained, when the health has been fairly re-established.

The above mentioned remarks apply to the Lebland, as opposed to the Coast District, in which all the large towns are situated. Many of not most of the cases of consumption sent to Australia do not visit the Interior at all or only upon a fleeting visit, but pass the time in Adelaide, Melbourne, or Sydney, having, on their departure from home, acted upon the urgent advice to "visit Australia."


This mode of procedure can only lead to disappointment, and to the loss of valuable time and opportunities, as regards the patients themselves, and to a distrust of and disbelief in the properties and capabilities of the Climate, in the hands of Members of the Profession in Great Britain.

I know of no scientific work on what has been termed climatology, but it appears to me that the influences chiefly at work from a medical point of view are the Latitude, the degree of altitude, the distance from the sea, and the presence or absence of any natural barriers to a free accession of the leeward, and the nature of the prevalent winds.

In addition to these geographical considerations, the nature of the Soil of particular localities must be borne in mind.

In what way the result of these combined influences react upon the individual is somewhat obscure, probably by affecting the food or ill its constituent molecules, but it seems this subject does not come within the scope of this paper.

From a practical point of view, in addition to the ordinary meteorological observations etc.
Altitude, Barometric Pressure, Temperature, Humidity, Direction and Force of Breeze, and Rainfall, the obscure influences connected with the causation of epidemics, the influence of special kinds of climate upon different forms of disease, as evidenced by experience, and Racial peculiarities have all to be considered in treating of a particular climate.

The excellent results that attend upon a residence at a great altitude, and in a consequently rarefied atmosphere, in some cases of Phthisis, while an equally good result follows in many cases a resort to a diametrically opposite climate in other cases, causes one to be very guarded in the expression of any opinions upon the actual cause at work, but carefully prepared statistics such as I thereafter adduce cannot fail to carry great weight, and if it be granted as I cannot but think it must, then the comparative rarity of Phthisis leading to a fatal issue in New South Wales is an established fact, that fact remains to be accounted for, and this I shall endeavour to do in the following pages.

One slight source of error may have crept into the statistics which I have procured from
The Government Statistician, due to the insatisfactory state of the law dealing with the registration of deaths in the Colony, which allows of death-certificates being filled in and signed by unqualified practitioners.

Practically, however, this is only done to an extent which can have no appreciable influence upon the tables to which I refer, and I am disposed to think that the result, if it could be ascertained, would be shown to be on the side of attributing an occasional death to "Consumption", which was really due to some other cause, the name of the disease being so well-known, that a common diagnosis for any wasting illness amongst the more ignorant is at once "Consumption".

The good sense of the people has to a great extent taken the place of a law upon the subject and banned unqualified practitioners at any rate from the quasi death-certificates to the more inaccessible or sparsely populated districts of the Colony, and I believe that the Return may be looked upon as practically accurate.

It is now I believe generally admitted that
Climate has a direct and marked influence upon the causation of consumption, and that its effect may almost be placed upon a par with, the of deficient quality and quantity of food, and insufficient ventilation, and admitted to rank as a predisposing cause, second only to hereditary predisposition, and injurious occupation.

It has been said by Dr. Hopkins and the authority of Dr. Seelmann, that consumption is unknown in Iceland. He goes on to say that it does not occur in Sweden and that the Swedish physicians look upon the disease as becoming rarer in proportion to our progress northward; and this is in despite of the fact that inflammatory diseases of the lungs occur with at least the frequency in those localities with which they are met in the temperate zones.

Dr. Hjeltin is the author of a pamphlet in which the unusual severity of pneumonia as met with in Iceland is discussed and compared with the milder forms met with in Middle Europe. (Practitioner, March 1880, p. 161) Not leaving out of the question the most northerly countries of Europe, in which the
Accurate would appear to be comparatively rare, although I have been unable to obtain any reliable statistics on the subject, as illness with which as a race we are brought into contact with, can be considered to be self-contagious, from the Equator with its mean temperature of 80°F to the coldest climate, in which the angina porosa has affected to any extent.

Speaking generally the exact difference between cases of intercellular disease occurring in countries representing the extremes of temperature, i.e. the arctic zone, and the temperate zone, the latter two presenting similar peculiarities in this respect, appears to be one of type. In the latter climate the disease is chiefly associated with catarrh, and inflammatory processes, and has a tendency to run a chronic course in most cases, while in the former the tendency in a large proportion of cases is to an acute course with septicemic symptoms, the malady not confining itself altogether to the lungs and running a course of acute tuberculosis. The latter form occurring most typically in the hot climates, but also
in the North of Queensland, and indeed, the
prevailing and intensity of the disease in Portau-
District, which are not lessened though mitigates
by the general belief in the efficacy
of fresh air in such cases, approaches the type
in being in the best Indies, and has led
to the Italian belief so to its highly appalling
nature of the disease, which is so much insisted
upon by certain continental physicians in connection
with the Iberian Peninsula.

Comparative immunity from the disease enjoyed
by one race in a given locality, by no means
excludes a similar privilege for individuals
of nearly different race, a good example
of this fact being afforded by the Army Medical
Reports which show that at Gibraltar, Illness amongst
the Negro Troops reached the sum of forty three per
thousand, whilst its average prevalence amongst
the European Troops at the same time was between
five and six per thousand ("Illness in Palermo, consump-"

A striking example of the same fact is afforded
by the district of Stanley in which Indians
four years since, in its great relative prevalence
and fatality of the disease amongst the small
population of the Aboriginal Inhabitants left
This fact had ample opportunities of observing and obtaining reliable particulars concerning, during my two years residence in the town of Lettford, situated in a valley of the Blue Mountains, when as Government Medical Officer for the district of Hartley several cases came under my notice and treatment.

In four cases the disease reached a fatal issue in an average period of twelve months. The longest duration was eighteen months and the shortest terminated in less than four months.

The fatal result might no doubt have been retarded by suitable treatment if this could have been adopted, but owing to the habits of life of the sufferers this was one of the question. These cases occurred amongst an aggregate of some thirty individuals.

From conversations which I have had with professional friends who reside in districts in which Aborigines are still to be found, I am confirmed in my opinion as to the extreme prevalence & facility of Phthisis amongst them. I have been unable to lay any hands upon any reliable information as to the common
occurrence or otherwise of the disease amongst the native inhabitants in the early days of the settlement of the Colonies, before contact with European civilization created its effects, but that it is now rapidly determining their habits which they abandoned their original habits of life is undeniable, and the same process is going forward amongst the Maoris of New Zealand and the Sandwich Islanders, in clusters which are found to suit the European admirably.

This result appears to be due (at any rate in the case of the Australian aborigines) to the effects of Syphilis and alcoholic excess; in three out of the four cases to which I have alluded traces of Syphilis were present together with the bad results attending the substitution of dilapidated European clothing for the proper skins originally worn at melomine seasons, and much better adapted for resisting the effects of the exposure incidental to a life passed in the hot sun or "guayabo," quite incapable of excluding wind and rain.

It is highly probable that the garments worn in other parts of the world amongst these people by depriving
New of the influence of the Sunlight and air upon the skin of a race not gradually mixed to the Caucasian may be in part to blame for the result. The skin of the aboriginal and that of the negro, in addition to its different complexion, possesses a thicker and more moist than that of the European and is rendered, by nature, for the performance of a greater number of functions, and the adoption of clothing probably acts by interfering with the exhalation of water and carbonic acid, and by throwing upon the respiratory and biliary systems the task of elimination destined by nature to be performed by the integument. In addition, a similar high rate of mortality has been found to occur amongst the plantations laborers imported into Insular, amongst whom Pallas is thrice vipers, although I have seen no signs of the disease, although I have been assured by a late government agent, i.e. an official carried by the recruiting vessels when collecting taxes, that he never saw a case of consumption amongst the laborers in their own Islands. His gentleman Mr. de Mendo, is a highly intelligent man, and had had the benefit of a three years medical curriculum.
It may not be out of place, before proceeding further, to briefly enumerate the opportunities which have been afforded me for the observation of pathological as it is not with in this South Colonies. These observations have extended over a period of three years. During the first two years of this time I occupied the position of Government Medical Officer for the Stanley District of New South Wales and was the only practitioner resident in the town of Lithgow, a place containing about three thousand inhabitants, and the centre of a fairly prosperous agricultural and mining district. When at the end of that period I removed to the town of Bathurst, about forty miles north of Lithgow, and containing about ten thousand inhabitants, in which I have since practiced I became one of the Medical Officers to the Bathurst Hospital, so that my opportunities for observation have been fairly good. When I arrived in the Colony in the latter part of the year 1882 and settled down to practice I was astonished at the comparative rarity of the bronchial and pulmonary cases which I dealt with, coming as I did straight from a medical
appointment at the Royal Infirmary in London, a position which involved seeing a large number of outdoor cases daily in addition to the work in the beds. During this time I hardly say that I had ample opportunity for observing the extreme prevalence of bronchial and pulmonary affections. I was also much struck by the favorable course taken by most of the cases which came under my notice as compared with those run by cases of the same character in London, and Edinburgh.

In talking the matter over with any fashion, an Australian practitioner of from and twenty years standing, and one or two professional friends, I discovered a thorough unanimity of opinion as regards my own impressions, and of pulmonary complaints. This was particularly considered by performers as illustrating the favorable clinical results observable, both as regards its rarity amongst the habit born population, and in the amelioration of symptoms of favorable course generally noticeable in imported cases.

Since that time, I have lost no opportunity of collecting the evidence upon which I base this.
Remarks.

The subject appears to me of great importance. I believe that I do not exaggerate in saying that every year thousands of invalids leave Great Britain & Ireland with the object of recruiting impaired health, and that of them by far the most important class is made up by the victims of consumption, and those in whose lives this disease is threatened. These people are scattered over the whole civilized world, wherever localities exist which have cared for themselves, on sufficient ground or otherwise, reputations as sanatoria; some are sent to find at Dorothea, others to Simmern in Egypt and its intermediate climate exists, but has its bantams amongst British medical men and its breeders, and in too many cases, its victims amongst their patients.

No systematic record of results in these cases is attempted to be made, except by isolated clinicians, such as Dr. Theodore Williams whose notes of over 100 cases seem to me the first great advance in this direction.

My personal experience of foreign climates.
is limited to those of Australia and Tasmania for during my vacuum I have visited, in addition to Tasmania, Southland and Victoria.

The reasons for these colonies from the United Kingdom, and the lack of intelligent interest devoted to these until quite recent years, by the classes at home probably accounts for the very vague notions which are then entertained upon most subjects connected with them, and upon none more than the different climates which they comprise, and their suitability to health-work.

"Queen's" "definition of Australia": "A place where they grow wood." Represented a few years since, if it does not do so today, with but little exaggeration the same of the knowledge relative to the Australian colonies possessed by many thousands of educated intelligent Britons.

Even German workers says that "the coast climates of Australia may probably be useful for colonies with a Heilbronic tendency." (From Leoncavallo's Handbook of Montefeltro, P. 135) entirely ignoring the qualities of the inland for such cases and not displaying much familiarity with the particular region upon which he touches, and
Dominating in a few misleading lines, a country inhabited by three millions of Britons.

Presumably any European climate which has acquired a reputation as a place of permanent residence for consumption, but has its counterpart in the settled parts of Australia, and even should those fertile and the valley of the Euphrates sustain the reputation which they at present enjoy, their prevailing conditions are simulated in the ranges and valleys of the Snowy Mountains of Australia.

There must always be a large number of cases which will never admit of a return to Great Britain, with a view to continuous residence there, and the resumption of ordinary occupations.

What takes place in a large proportion of cases as the result of a temporary sojourn in a suitable climate abroad, or the continent of Europe or elsewhere, is more or less marked improvement ending in permanent enforced foreign residence, or a return to a shortened existence of confirmed invalidism.

For such cases as these, Australia is a haven of refuge indeed.

Amongst a people of the same race and language, living under similar institutions
and leading lines chiefly differing from the ordnary mode of life at home, in the greater freedom from artificial restraint, life presents attractions which Britons cannot expect to experience upon foreign soil.

From the time that an invalid leaves England for Australia he is placed under anxious favorable climatic condition. If such a step be contemplated July or August should be chosen to make a start in, and the route taken should be round the Cape of Good Hope in a sailing vessel.

The American route is quite unsuited for invalids (save supposing as is generally the case that the disease is somewhat advanced or at any rate not quiescent) owing to the fatiguing nature of the transcontinental journey, and the absence of the quiet so essential in most cases, while that by the Russian and Suez Canal is too trying from the excessive heat experienced at some parts of the journey, and the absence of the quiescence of temperature present throughout the entire ocean voyage, and the variable amount of humidity of atmosphere from the influence of the adjoining
The sailing vessels owned by Fisa or Benita and Moore, which round the Cape of Good Hope in the outward trip, contain far more spacious cabins for accommodation than the steamers, as there is rarely overcrowding which is the rule on the steamers, the food provided is excellent and most of the vegetables suited to the Invalided and capable of being carried on board are procurable. Several of the vessels lay themselves out for making the trip comfortable and for relieving the tedium of the voyage in every possible way. A surgeon is carried and the captain and officers vie with one another in their attentions to their passengers.

The temperature during the voyage varies from about 75° to 80°, the range altering but little at different seasons, and is only really trying about the Equator. Should the beach be decided as is usually the case for a week or two.

The changes of temperature are gradual and so a rule without there being a gradual rise to the sun, and a gradual recession after that is passed, except for a short time when in rounding the Cape, the point of contact between the cold Polar and
The warmer Northern Ocean Currents being impinged upon, the changes are great and sudden to require to be seriously guarded against.

Observations with the Hygrometer point to a large proportion of moisture throughout the air during the whole voyage.

The advantages possessed by sailing vessels over steamers may be shortly said to arise as follows. The greater length of time occupied on the voyage, viz. from eighty to one hundred days, as against from forty to forty-five, the absence of the vibration caused by the propellers, and of the sooty and smoky particles which are extremely disagreeable and the unpleasant, sickening odour from the engine rooms, and the fact that the unpleasant effects of lead winds are seldom experienced.

Obstinate cases of seasickness though by no means common on steamers, are also less so on sailing vessels.

The advantages obtained by fixing the date of departure from Great Britain for July or August are that the former lands at Melbourne or Sydney in the Australian Spring and thereby avoids an immediate entrance upon the trying Australian
Summer without the preliminary acclimation which is desirable; which a later departure, which is usually recommended elsewhere, and in many cases this would make a great difference in the ultimate benefit to be derived from the trip, and to depart from this rule is to throw away a chance where none can be spared (an October or November start from home is recommended amongst others by J. Theodore Williams but this absolute to be ill-advised. "Salmonary Pneumonia"

P. 366).

If instead of remaining in the colony it is desired to rely upon the voyage as a restorative, the return trip should be as carefully timed or more so to avoid the rigorous British winter, and in such cases patients should be warned to exercise special care while in port as relapses after landing are common, and are generally due to imprudence and the neglect of ordinary precautions.

If the return voyage is to be made in the same vessel as the outward one, for which favorable precautions arrangements can be made, an October or November start from the British dominion is probably the best time, as it not only lands the nascent at home in the British Summer or Spring according to the stay in part of the Breed, which is usually from
or five weeks, but, as is usually the case, Cape Horn is rounded on the way home. This is done at a favorable time of the year, for when this is done during the winter months a more northern course than usual has to be steered to pass the headlands, and ships sometimes beat about for weeks in continuous clouds of mist and hail.

The advantages to be expected from this voyage may be shortly summed up as follows.

The purity of the air, its freedom from organic gases and irritating inorganic particles, with the tone, bronchic, lachrymal, and salivary particles with which it is impregnated probably all exert some influence, which is shown, when after the expiration of ten days or a fortnight after setting sail, the seaickness having by that time disappeared in the large majority of cases, and the travelor become accustomed to the novel conditions of life. The whole day can be spent in the open air on deck (to which most should be made as early as possible) which is becoming warmer and more sedative daily.

The first favorable indication is diminution of cough (D. Maclean quoted by D. Henderson Williams, Pulmonary Consumption 9, 266) and this is soon followed by sounder sleep and improved appetite, and by the
time the ship enters the Red Sea. Eastern tradewinds with their cooler atmosphere, the advantages of the voyage are generally sufficiently evident by the improved color and increased weight.

The Australian voyage via the Cape of Good Hope ports is debatable calculated to afford better results in consumption than any other, being probably most nearly approached by that to the Cape itself, and back, and it is of interest to note the unfavorable contrast in every respect offered to it by the Suez Canal and Red Sea Sip.

In this latter, as far as Egypt, the general conditions except as regards the comparative advantage attached to steam and sailing vessels, are the same. but whereas there is the temperature of the atmosphere falls off immediately upon passing through the Straits of Suez, the generally as much as six degrees Fahrenheit and owing to the breadth of the Mediterranean a more or less gradual rise goes on as far as Port Said. Entering upon the Suez Canal, again leads generally to another marked rise, but in the neighborhood the thermometer is usually subject to great variations. At Suez 85° is not seldom registered and the least moisture during the passage of the Red Sea, varying at this point from 85° to 90° according to the
Season of the year, a gradual lowering takes place until the Straits of Bab-el-Mandeb are passed, and after Bombay is left behind the Ocean again enters its equatorial influence.

Between 'Straits and the Straits of Bab-el-Mandeb the difference between the best and dry Balsas though variable is usually great, and under the influence of the same bashes may be as much as 2°.

The disadvantages of this as compared with the Ocean voyage may be summed up as consisting in the exposure to greater heat and dryness of the atmosphere, and the liability to sudden and marked variations of both, causing greater proneness to chills (which may be almost lost of account in the earlier Ocean voyages) and from the effects of which temporary albuminuria is common, with liability to loss of appetite, diarrhoea, and general derangement of health.

S. Theodore Williams narrates an instance in which albuminuria was found to be present in the case of every passenger on board a Roman and Oriental Steamship after entering the Mediterranean from the Red Sea, and from the frequency with which its presence is present in Pithious (S. Finlay's Stewart found Pithious to be present in half his cases of
of loco epidemic. (Bright disability, 9166) and the possibility of local interocular deposit. It danger implied in such risks as the occurrence of this disease common to sea voyages of both kinds are the provocation to slumber after landing, and the risk of persistent seasickness. The former consideration calls for the exercise of the greatest care with regard to diet, exercise, and general habit in port, while the latter though uncommon renders it desirable to obtain information in respect to former seagoing experience.

Mr. J. A. Cox., F.R.S., would attempt the Australian voyage whose means will not admit of travelling first-class in this respect, again in a sailing vessel has the advantage of comparative cheapness.

It's very desirable that, if possible, a midshipman be accompanied by a relative or friend, if in an at all advanced stage of the disease, to diminish the seasickness so often induced by the monotony of the ocean life, 6 to supply so far as may be, the little attentions and comforts to which he has been accustomed, and which nothing in the world go far in reverse cases to produce a satisfactory mental condition.
The patient should be recommended, if he does not contemplate an immediate return to New York, to have his attention drawn to the climate of the Australian Colonies, and not to relax his ordinary precautions on any account, many patients learning to entertain the idea that the Australian climate is to act as a substitute for ordinary care and all therapeutical treatment, whereas properly considered it should be looked upon nearly as a powerful agent in their health. Before proceeding to deal with the Australian climate, a few words as to the classification adopted by different authorities when considering climates generally may not be considered inopportune. Second divides them into two fundamental groups according to their altitude and the atmospheric pressure. Henderson in a word divides them according to the combined characteristics of their meteorological and geographical elements, paying especial stress on relative humidity. Stansfield Powel after describing the different varieties of climates best treated at elevated situations divides other climates under seasonal headings.

Michael Sigal classified climates according
to mean temperature, i.e. the offsets, recognizing

German meteorologists into marine and inland.

I have enumerated the above to illustrate the

widely differing of opinion which exists amongst

Authorities on the subject, and to show how

impossible it is to produce a classification

relied upon for practical purposes –

latitude, altitude, distance from the sea, exposure

nature of soil and prevailing winds having

and all to be taken into account in each

individual case.

Such a thing as an Australian climate cannot be

said to exist. Australia possesses every variety

of climate. Deserts in the North, it is temperate

in the South, with localities near the Southern

Coast extremely cold both from their altitude, the

highest peaks exceeding seven thousand feet in height,

and also from their exposure to the Antarctic

oases.

The town of Flinders in the Australian Alps

stands at an elevation of four thousand six

hundred fifty feet above the sea and is surrounded

within a few miles by hills, snow-capped during

most months of the year.
Not only do the higher elevations of the South of the Island experience low temperatures during the whole of the year, but the whole of the Blue Mountain Range in the East Coast and extending from the North to the South is more or less marked by the same characteristic while during the winter season of four or five months the Plains of the Interior are swept by bleak South Western Breezes.

These facts notwithstanding, Australia must still be looked upon as one of the most southerly of the Globe.

The Gulf of Carpentaria in the North of the Colony of Queensland is terminated by the Isotherm of 60°, while Brisbane the Capital Town is touched by the Isotherm of 70°. Speaking broadly and irrespective of latitude and consequently to a great extent of temperature these distinct varieties of climate may be said to exist in Australia and there are all represented in New South Wales, viz.

(1) The Climate of the Coast District
(2) The Climate of the Mountain Ranges.
(3) The Climate of the Subtropical and the Plains of the Interior, which run into
each other by insensible gradations.
Before proceeding to deal with these three main types of climate more in detail, a short consideration of the Australian climate taken as a whole may not be out of place.

Its main characteristics may be said to be those of heat and dryness. The latter of which contributes to a great extent the enervating influence which the former might be expected to exert, and contributes by the prevention of free perspiration to the maintenance of a high standard of physical repair and energy.

The great heat which frequently prevails never interferes with the transactiion of business or the pursuit of pleasure even in the hottest places, and the idea of a midday siesta is never entertained by those of the midday who have anything else to do, nor are any official precautions adopted with a view to mitigating its effects.

Although I have travelled as far north as Rockhampton a town in Queensland under the Tropic of Capricorn, I have never been a sufferer in use even in the heat hotels and the use of ice is looked upon drily.
in the light of a luxury and not as is the case in India and the hotter parts of the United States almost as a necessity for Europeans. In all the Island Towns of Australia of any size and in the "stations" of the Interior the roofs of the houses are formed of sheet iron, an arrangement which is certainly not calculated to secure a low indoor temperature; and I can assure you that I have seen the thermometer standing at 105° in the shade. In the Interior the great heat is not ameliorated by cool nights, an advantage which is however enjoyed close to the Sea-board.

Australia, from its earliest colonization has always been considered as untidy to within recent years, both by its inhabitants and by those educators who gave the matter attention to be an exceptionally healthy country, and so tough in the earlier days to conquer after its population almost complete eminence from Pithicari (Drum 1663 in Dr. Zemscos's Of and Book of Diseases 1847. p. 288) and to show a very low death-rate among but of late years since the amount of consumption
 preorder in the large towns has attracted attention. 
It has come to be considered by many that the 
early healthfulness of the country was so far as 
it actually existed chiefly due to the sparse 
population and the mode of life of the great 
tmajority of its settlers; and partly to the fact 
that these settlers were generally men of robust 
constitution, or the offspring of such, as would 
naturally be the case in a country situated 
geographically and socially as Australia 
happened to be.

The truth probably lies between these two extremes. 
Australians are not free from the disease in 
question but they are less subject to it than 
the inhabitants of any other country of the same 
of which we are in possession, and it is not 
difficult to show grounds for this statement.

The low death rate, usually half that of Great 
Britain was in the days of Australia's helpen 
reputation from a sanitary point of view, 
attributed to the great summer heat which was 
believed to exert a powerful influence on the 
prevention of disease, or as it would now be 
put to prove fatal to the grime of protofection 
and malaria, the anti-miasmatic character
of the vegetative and the great number of sunny
days with their generally tonic effect; and to
day way of thinking there was much truth in
this view.

From the time that Sir Joseph Lister's immortal
discovery gave system and direction to
modern research until as far as immediately
concerns my subject the latter culminated in
that of Hook of the Bacillus Tuberculosis's more
importance has continued to be attached to
the influence of certain microbes upon the
causation of disease.

S. Linder Bruun remarks apropos of this
point in his Problem Lecture published in
The British Medical Journal, of June 8th last.
In speaking on the subject of the hereditary
nature of disease, these two factors exercise
their influence viz. 'the Soil and the Seed, the
Soil is hereditary, but the Seed may or may not
be known in it,' and as an example he points
out Phthisis Pulmonalis.

Australia has certainly not sustained the
optimistic anticipations which were originally
entertained with regard to it from a similar
point, but the merely shows that there
Expectations were exaggerated, and Hermail's remark that 'whatever extent Australian Coast Climates are available for the treatment of disease, they have certainly lost much of their fame as sanatoriums for consumption' (For Zemski's Handbook of Therapeutics Vol. IV, P. 1935) merely shows the necessity for impartial discrimination, not for wholesale condemnation.

With an increase of population, the defective sanitary arrangements almost inseparable from young centres of population, and the keen struggle for existence, leading to an approximation to the modes of life in older countries, the death rate from general and from consumption has undeniably increased, but it has now steadily at any rate for years to come probably attained its maximum. This expectation is founded upon the greater attention devoted to, and the improvement affected in, the sanitary arrangements in all the larger towns, by the application and perfecting of the water supply and sewerage systems. The population of the city and suburbs of Sydney for the year 1888 amounted to three hundred and sixty six thousands and, while the
Colony altogether numbered one million and eighty-five thousand souls.

At the Census taken in 1871, the proportion of metropolitan residents was roughly twenty-six per cent of the whole community; ten years later the percentage was twenty-nine and during the past year it has attained thirty-three per cent. The phenomenon of more than one-third of the population of a territory embracing three hundred and ten thousand square miles being located within the boundaries of the principal city, although remarkable, is one which finds no parallel in the history of the principal member of the Australian group of colonies.

Of the Victorian population, estimated at one million and ninety thousand, four hundred and thirty-seven thousand are resident in Melbourne; and in South Australia, out of a total population of three hundred and fourteen thousand, one hundred and fifteen thousand are found in Adelaide, giving the former city a percentage of forty, and the latter thirty-six of the whole.

A similar tendency towards undue growth is displayed in the larger cities of most countries.
Countries at the present day, but in no part of the world has the centralization of population reached to such a pitch as in the Australian Colonies.

The above figures which these extracts from the births statistics of Sydney and Tasmania for 1888, compiled by the Government Statistician, show that the deathrate of these colonies must chiefly be looked upon as that of large cities and these cities all situated upon the coast, i.e. the least deathful position, and in spite of this fact the following table shows, while the birthrate is sustained, the deathrate as compared with large towns in other countries is much lower.

I call attention to these figures in the Annual Report from the Government Statistician on Birth Statistics for New South Wales for 1887.

Chief Cities Approximate Births Deaths
Population live for 1000

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
<th>Births</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>358,000</td>
<td>38</td>
<td>17</td>
</tr>
<tr>
<td>Melbourne</td>
<td>419,000</td>
<td>37</td>
<td>20</td>
</tr>
<tr>
<td>Adelaide</td>
<td>113,000</td>
<td>32</td>
<td>16</td>
</tr>
<tr>
<td>Brisbane</td>
<td>82,000</td>
<td>45</td>
<td>17</td>
</tr>
<tr>
<td>Hobart</td>
<td>9,000</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>Chief Cities</td>
<td>Approximate Population</td>
<td>1870s</td>
<td>1880s</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1875</td>
<td>1885</td>
</tr>
<tr>
<td>Liverpool</td>
<td></td>
<td>34</td>
<td>26</td>
</tr>
<tr>
<td>Birmingham</td>
<td></td>
<td>37</td>
<td>19</td>
</tr>
<tr>
<td>London</td>
<td></td>
<td>34</td>
<td>21</td>
</tr>
<tr>
<td>Glasgow</td>
<td></td>
<td>37</td>
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<td>Edinburgh</td>
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<td>32</td>
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<tr>
<td>Dublin</td>
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<td>29</td>
<td>27</td>
</tr>
<tr>
<td>Vienna</td>
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<td>39</td>
<td>29</td>
</tr>
<tr>
<td>Copenhagen</td>
<td></td>
<td>39</td>
<td>22</td>
</tr>
<tr>
<td>Berlin</td>
<td></td>
<td>37</td>
<td>26</td>
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<tr>
<td>Paris</td>
<td></td>
<td>30</td>
<td>26</td>
</tr>
<tr>
<td>New York</td>
<td></td>
<td>39</td>
<td>26</td>
</tr>
<tr>
<td>Philadelphia</td>
<td></td>
<td>36</td>
<td>20</td>
</tr>
</tbody>
</table>

The referring to the General Description of New South Wales as opposed to that of the Metropolis taken by itself. I find that in 1867 the only reached 13.5 per 1000 and that of South Australia is still lower. These figures place in a strong light the healthfulness of the Country districts, but this will be more strongly shown in detail in the Table accompanying my explanation.
The coast district

This is a narrow strip of country bounded on the north by the Tassie Eastern Mountain Chain, and on the east by the Pacific Ocean, and varies in breadth from about twenty to one hundred and fifty miles, and upon this a large proportion of the whole population is resident and all the large towns but Adelaide and Port are situated, these latter being situated on the eastern coast beyond the distribution of the Mountain Chain.

The physical character of the coast district is very scenic; for the most part it consists of hot parched plain country, with little from a scenic or picturesque point of view to recommend it, with a climate between the Sandhills of which it is in great part composed, with their barren appearance and sombre stunted vegetation, patches of country exhibiting the highest luxuriance of vegetation. The heat of Summer is great, though less than ...
that of the Table-lands. The heat wind is unknown in the north, and in those parts of the Southern Desert to which protection is denied by the adjoining mountains, but is disastrous in the south at certain parts of which Melbourne is a good example. Sydney, Clare, and Adelaide feel its effects to a smaller extent.

The rainfall all along the coast is considerable, ranging from thirty inches annually in the north of Queensland to fifty inches at Sydney and thirty at Melbourne, but from the rapidity of evaporation the atmosphere is far drier than in a few miles of the coast than might be expected.

The rainfall makes the prolonged drought of Great Britain, it makes up a great part of short heavy downpour.

In accordance with the usual experience in the vicinity of the ocean, a fairly equable temperature might be looked for, but this is far from being the case, on the contrary, the coastal district, especially in its more southern parts, possesses an extremely variable temperature.

The two are less in the ocean except by the Antarctic Atmospheric Currents. On the other except where protected by unusual elevations or
The part of the adjoining mountains, lie dry hot plains, except for many months of the year by scorching winds. These conditions give rise to sudden and violent changes of temperature, with depression of moisture corresponding to the meteorologic variations, and these prevalent conditions it is which render the Coast Climate especially unfavorable to "Pithecanuran" cases, except in those few favored spots before alluded to in which the Coast Range affords peculiar advantages of shelter, and now of these parts happen to be present centers of population. Of these protected places, Pineda and Southold Bay in New South Wales and Albion in Victoria may be cited as instances, one near has probably great futures before them as sanitaria. At these places the equability of temperature partly continued to by the higher heights intervening between them and the hot shores of the Interior, is also in part due to the influence which is exerted upon them in common with all the Southern Coast by the warm Ocean Current, which bounces their shores in its progress from the Equatorial Region of the North, an analogue of the Gulf Stream of Europe and America.
Edeh and Morpold Bay, both of which I have visited, are in addition beautifully sheltered from the Antarctic East by falling headlands, and lie nestled in the most beautiful scenery that can well be imagined.

From their inscrutability, owing to irregular communication by means of indifferent coasting steamers, however, neither of these spots is visited at present as a resort for sportsmen, and the Coast District generally, as a sanctum sanctorum is to be condemned.

The fact that residence on our coasts frequently proved injurious to those cases which benefited by the journey, and it is notorious that this is the case, is probably due to the effects more markedly experienced here than in most coastal regions; exposure to diseases of various character and the absence of the continuous micro-climate, attributed to the Asian winds.

Of the Capital Town, situated upon the Coast, Brisbane, that of Queensland differs markedly from the others. It is semitropical with a mean temperature of 69° F. and an annual rainfall of 67 inches.
Sydney, Melbourne and Adelaide, the chief towns of the Colonies of New South Wales, Victoria, and South Australia, respectively, do not possess the equability of temperature which prevails in Brisbane. Sydney has a rainfall of fifty inches, Melbourne coming next with forty, and Adelaide last with twenty-one inches. Brisbane the thermometer rarely rises beyond ninety-eight degrees, and never descends to freezing point; it is free from hot winds and hardly at all affected by the cold Southerly winds which have in the Persian passage lost most of their frigidity.

Melbourne, Adelaide, and Sydney resemble each other in their liability to dust storms, the great heat of their summers, and the mildness of the winter.

Of the three towns Melbourne is the coldest, and Adelaide the most. Sydney is cooler than Adelaide because than Melbourne, but its excessive humidity renders its climate more enervating than that of either of the other.

The mean temperature of Sydney is about 64° F. mean winter, 70° F. (July to August) 75° F. mean summer 71° F.
During the winter months low weight temperatures prevail.

Here are about two hundred and forty-five, and
forty-eight rainy days in the year.

The maximum of relative humidity (0 to 100%) is
97% in October, and the minimum, 40%, in January.

The mean winter temperature is 49°F in Seattle;
summer 66°F. The mercury often rises to 110° and
rarely falls to 32° or an average twice at the year.

The mean temperature of Adelaide is 63°F.

In winter 53°; in summer 73°. The summer
temperatures are great owing to the proximity of the desert.

With the Capital of Western Australia
near the Adelaide closely but has a great rainfall.

These restrictions may be removed to the principal
centres of population, and although there
are many more favorable localities than
then upon which these towns are built upon
the Soldier of Commonwealth, still from its
difficulties of access which they present
and their lack of suitable accommodation, may
recommend themselves as suitable places for
The northernmost.

Lake as a whole, the coast district of New South Wales has a rainfall of about 40 inches, and except during violent atmospheric disturbances, the extremes of temperature are mitigated and humidly approaching to that natural to the coast by the western northern currents.

In the mean annual period, the peculiarities of your latitude, especially as regards the Southern Coast of New South Wales (i.e., from about 34° S.) is analogous to temperature to the Mediterranean coast climate, as it is experienced at Naples, Gibraltar, and Algiers, in Summer, while in Winter it resembles that of Sicily, in point of climate.

The Hill or Mountain Region of Australia extends under different names from the extreme north of Queensland to the South Australian Border of Victoria in the form of a continuous range. It clearly corresponds to the coast line in direction and varies in elevation from three to two thousand feet. This range may be very shortly described as it comprises but few towns within its extent, and these are at present chiefly of interest.
as affording easily attainable refuge from
the heat of Summer for the residents of the lower
land on either side.
Mount Victoria and Katoomba in New South
Wales and Mount Macedon in Victoria are becoming
popular sanatoria to this respect, and in the
future, I have no doubt that many similar
health resorts will spring up throughout the
Mountain Ranges.
The present centers of population to which I have
alluded are of so recent date, that I have been
unable to procure any reliable statistics, with
respect to their mortality from Phthisis, and
for similar reasons any such statistics would
be useless from their obviously dealing with
imported cases.
The isolation of Phthisis by its high altitude
place in Australia, would only be possible
in Australia within certain limits, if by high
altitude we mean above four thousand feet,
from which to six thousand seems to be
considered necessary upon the Continent of
Europe (to talk scores Phthis as a typical case)
and according to the system by which Kochian
has endeavored to fix the elevation of communi-
For every degree of North or South Latitude the area correspond to a greater height than is attainable in Australia. (Influence of Climate on Pulmonary Consumption, P. Dr. C. Heiners Williams).

The highest peak in Australia, Mount Kosciusko, only attains a height of some thousand two hundred feet (the neighboring Colony of New Zealand however possesses one of the grandest Mountain Ranges in the world) and the highest inhabited spot is the Town of Keewra, near Mount Kosciusko, at an elevation of some thousand six hundred feet.

Whether weight may attach to Kendall's classification, the fact is that it asserted that a considerably greater elevation would be necessary in our latitudes than in Europe to attain similar results, so that Australia is destined never to vie with Europe and America in this particular respect.

Yet still the conditions to which the success of the High Altitude Treatment, which seem to be, in addition to the increase of Solar energy and greater purity of the air, its rarity, acting by stimulating the respiratory activity and promoting healthy expansion by leading to more active nutrition of the lung tissue and thus aiding...
the natural vital resistance to the spread of
morbic products, and their absorption, may at
clear rates be enjoyed to a modified extent in the
Mountain Sanctuaries of the future.
The battled of Australia by which I would
be understood to mean the plateau to the immediate
westward of the Great Mountain Ranges, lying at
an elevation of from fifteen hundred to two
thousands five hundred feet, sloping towards the plains
of the Interior which descend to a height above
the Sea of one hundred and fifty feet at best work
at New South Wales, close to the border of South
Australia and to the Better Colony near lower
in many places; may be looked upon as possessing
the typical Australian Climatic characteristics,
the is that of the uniformly preponderating areas
(The Mountain and Coast Districts containing
two hundred cool and wet a small fractional
portion of the Island-Continent). Stretches from
the base of the Blue Mountain Range backward
to what has been known since the days of the
Earliest explorers as the "Great Central Plateau," which
contains a numerous for it that is
known in Australia as a "good season," i.e.
while the rainfall has been general in the Interior
which is said to be on an average once in about
every seven years; no resort of any extent exists,
of the soil though somewhat light is good and
in an almost inconceivable short time after rain
produces a magnificent crop of grasses.
But between the Mountain Range and the central
and eastern, dry, irregularly torted plains,
Stretch vast undulating fertile plains, for the
most part tasselled and only covered in the absence
of rain (for these also are liable to very dry seasons)
by the Saltbush (possibly saltbush).
The liability to droughts which these plains bare
with the lower lying land of the Interior, accuute to
a much less marked degree, and the dry seasons are
not nearly so dry as so numerous, and in this
part of the country, the magnificent supplies
of artesian water procured through the bore which
are now being energetically put down in all
directions, are rapidly rendering the settled comparatively
independent of a regular rainfall.
These Flavus though mainly tasselled are in many
parts covered by forests of the different varieties
of Eucalyptus.
The average rainfall is about fourteen inches
annually while the evaporation is very great.
and the result is a climate the chief characteristics of which are its great heat and dryness. (The theoretical line of 80° intersects the north of the island at the Gulf of Carpentaria and that of 70° fast reaches Brisbane the chief town of Queensland).

In the monsoons a summer rise in many places to 112°F in the shade, but the heat though so intense is not proportionally exhilarating, owing to its excessive dryness, and the protection afforded by the Mountain Range from the cold southern winds, preserving the inhabitants from the fluctuations of temperature in winter, at which season the climate is all that can be desired.

Even a passing description of the climate would be imperfect without an allusion to the Hat buds to which the inhabitants are subject. This Hat Buid analogous to the Hebridean scenes the Simoom of Egypt and the East African H tsunami, arises at the worst time and is at its worst in times of drought. A current of hot smoke and the burning of the grass rises in a few hours twenty or thirty degrees, but as a rule it does not occur often, although when it does it blows with such intensity.
Here the effects are felt even to the Eastern Coast of the Coast where waves which is most prone to its occurrence feel its effects fall intensity, and experience its effects on an average for twelve days in the year. Although varying in the highest degree during its actual presence, it is probably not without an indirectly beneficial effect. Coming as it does from a salt sea, waves its effects are drying and scouring and exert an atmospheric influence by destroying the products of animal and vegetable decomposition. There can be no doubt of the beneficent effect caused by the cloudless skies of the Saltland with the resulting intensity of light and absence of atmospheric moisture.

Although scarce of 20 accurate photometric observations photographs are taken in a much shorter time at the Nearer than in the Mountain or in the Coast Country, pointing to the greater intensity of light to which I have just referred.

The likeness of the winters is another point demanding attention in considering the general climate of the Saltland. Except close to
the Mountain Plain from its rare and scarce 
uncovered soils in the lower lying plains of the
Southern Folks are unknown.

The geological formation of Australia is as
the whole from a sanitary point of view decidedly
favorable. Volcanic action has been very
active and general. Basaltic, granitic and
metamorphic rocks prevail largely, and to
the exclusion of impenetrable clay soils.

The vegetation of Australia may be said broadly
to be composed of varieties of the Eucalyptus
tribe of which the following are the leading
representatives: Eucalyptus Eucalyptus Blackbutt, E. Longifolia, or Blotchy Bark, E.
Malletia, or Yellow Box, E. Microcarpa, or
Forest Malogany, E. Bronzite, or Peppermint Box.
E. Salsicha, or Floored Gum, E. Sebiferum, or
Mountain Ash, E. Denisonia, or Iron Bark,
and many more.

All these trees exhibit antiseptic principle
in addition to their great evaporating capabilities
and in the case of the Eucalyptus Globulus or
Black Gum (indigenous to Tasmania but in
every respects closely resembling those already
encountered) the antiseptic properties have
been practically recognised by its extensive cultivation in the marshy districts of Italy and Algiers, a proceeding which has been attended by the best results. In general death rates of Australia is very favorable.

I have by me a copy of the vital statistics of New South Wales for the year 1887 which shows the deaths to be for that year 13.15 per one thousand of the population, or about two thirds of the average deaths of Great Britain. Dysentery and Typhoid are unknown. Puerperal is very rare, and Typhus and Cholera are more so, amongst natives of the Country, and Diseases of the Respiratory organs cause only about half the proportion of deaths to which they lead in Great Britain.

With respect to consumption, and those diseases which are generally mentioned as more or less immediately arising upon its causation viz. Scarlet Fever, Puerperal and Typhoid Fever, I have referred to somewhere more fully later on.

Schuerman although repeatedly introduced has failed to establish itself hitherto, owing doubtless to the stringency of the quarantine regulations in force.
and the activity of the measures adopted for dealing with the question of self-poison.

Alcoholism as in most young countries is a serious evil.

As a set-off against the fact that most immigrants are of hardy and vigorous constitutions, picked cases as it were, the fact must not be overlooked that of late years the number of suicides who have come to Australia in search of health, has to a certain extent influenced the death-rate. Before it is impossible to say, as the mortality statistics have not been made out (except in South Australia, for the last year or two in the case of imported consumption) with a view to clearing up this point.

I wish to ask the Registrar General of South Australia, to ascertain how far the well-known fact that many patients in an advanced state of pulmonary disease are annually sent to Australia from Europe and how it helps to swell the South Australian death-rate, last year raised instruction to his subordinate officers to obtain wherever possible, on registering a death from Consumption, information as to the length of time since the deceased had reside in the Colony.
Since these instructions were issued a hundred and sixty-one persons had died from Cholera up to the period at which it was decided to report the difficulties. Of this number eighty were non-resident of the colony. I had been resident one year.

Six = two years.

Four = three years.

Four = four years.

Four = five years.

Sixteen between five and seven years.

Eight = ten years.

Twenty-four = twenty-three years.

In thirty-three cases the length of residence could not be ascertained.

Although these facts are incomplete both from the shortness of the period over which the observations extend and because the total immigration figures are not given yet they are sufficient to indicate the fallacy of accepting the ordinary mortality rates from Cholera without allowing for imported cases. With respect to New South Wales my statistical evidence ends at last in a table accompanying my illustration map, but it may not be considered out of place here to mention in defence of my
General conclusion was that the climate of Australia generally has a prophylactic influence in the case of those hereditarily predisposed to phthisic and scrofulous conditions, and sometimes curative effect upon the fully developed disease. The result of observations extending over the period from 1850 to 1875 in Victoria. For the following facts I am indebted to a manuscript letter by Dr. Reesmerch of Sydney who edited the former works by Knowsich which is yet preserved in the Colonies, and which I have not yet received from London, although I sent it some months since. Dr. Reesmerch's copy has been miscast and I shall look upon his manuscript.

The observations proved to show the same average conditions as those published by the Medical Society of Victoria for a period of five years. The report states that amongst a proportion of 22.83 cases of consumption, for every 100,000 persons living the number is 12.60 for Victoria. In the single year 1883 the proportion was 18.24 in Victoria as compared with 22.91 in England.

In New South Wales in the same year 1881, death from consumption occurred in a population of eighty thousand, showing
a mortality rate of 1 per 1000 while for the rest of Victoria it was 0.87.

For the Colony of New South Wales, the rate for the whole colony was 2.8 per 1000 while the rate for the whole colony was

New figures tend to show that it is in the County and Island Districts, of which the cooperative community existing is so marked. The Capital Cities, from their geographical position and the general condition of living accompanying the accumulation of population.
to large extent more nearly approximating to their results to those of the large European towns, and when a marquis has been allowed for as due to the larger number of imported cases likely to be included in the mortality rates of the Chief Towns which are all exporters, and likely to be so affected, there can be no reasonable doubt that the Chief Towns are in comparison with the Country Districts decidedly preeminent for Tubercular Cases.

Before proceeding to a more detailed account of the climate of the locality in which my own notes have been made, I will briefly pass in review the general influences probably at work in the alteration and care of consumption by climate.

In order to do this, it will be necessary to briefly consider the factors the factors concerned in the etiology of the disease, for if we cannot for said factors substitute other and more favorable condition, the causes will remain in force as it would be unreasonable and unsatisfactory to depict from treatment more than mere palliation of symptoms, and only so far as the climate of the Australian island can be shown to modify the prevailing causes favorably, can
it be fairly claimed to merit a beneficial action. In many cases of the disease in question the causes stretch back for generations past, as S.-Vanderkamph phrases it: "The Soil is present but the Seed may or may not be sown." So that I should be disposed for convenience of discussion to look upon heredity as a cause of the disease: seeking every allowance for the great existing difference of opinion as to the extent to which its influence should be admitted. Still, no doubt can remain as to the markedly hereditary character of the predisposition to consumption, so that I should consider heredity as not a direct cause yet as a more or less necessary concomitant present in a numerous class of cases, and to which no climatic change can eliminate except in so increased age renders its direct less probable, and hence favorable climatic conditions cease to directly influence a person hereditarily predisposed, or his withdrawal from the particular climates in question.

I would point to several cases in which persons with a strong hereditary climatic tendency have enjoyed thoroughly good health for years upon
the Intalands, and have developed Athiesia on removing to the Coast County or other unfavourable
situation.

Although not making itself directly felt as an influence upon persisting tendency to Athiesia to
the direction of inducing a change of climate
itmsues Still this result is aimed at in the
effecting of persons labouring under this mischief,
therefore born and reared upon the Intiland.

I quote a striking illustration of both cases.
A friend of my own a professional man with
a large family, who came out to Australia
nineteen years ago, having with a strong
hereditary predisposition, developed promitorisk
symptoms of the disease, enjoyed capital health
for thirteen years after his arrival in Australia
Sofar as the condition of his lungs went,
with the single exception of an attack of lumbal
pain about ten years since, about a twelve
and a half of blood being precipitated, the
probably to some some laclonized pneumonia,
for the medical man who attended him at
that time informed me that he could not
without physical inspection after careful and
repeated examinations, and that attack was
apparently followed by complete recovery. Winter
and Summer saw this patient continually in the
open air, riding or walking and enjoying typically
Good health in every way. Of a family of nine
children with a delicate mother, not one but
now wellgrown, healthy, and robust. This gentleman
came to see about two years since to be
examined for an assurance company, and after
a most thorough and careful examination
I passed him with a loading or vice versa of
premium of five years owing to the fact that his
mother had died of Consumption, and to his own
constitutional traits, for of actual pulmonary
tuberculosis there was at the time no suspicion.
This was the type of Strenuous constitution which
P.445. Dr. Scott said to describe as characterized
by white thick, small figure, lungs and formed head
with marked intelligence, fair thin silky hair,
blue eyes, short upper lip, and fingers with
always sharpened nails, in short a typical case of
the Irritable Strenuous Constitution.
About twenty months since this gentleman
moved to Sydney with the intention of there
practising his profession. Broad the Island.
It is wise in writing to me about her husband
Health tells me that she fears that two of the children are in a decline, and all are more or less out of health.

Her husband, who is now in Bath, was for a change called upon me to have his chest examined as he had had an attack of hemoptysis in Sydney.

In this case it is true, there has been marked change in his habits of life, from an active outdoor to a sedentary indoor existence, in addition to the change of climate, not an unusual thing, or a change from a country to a city life.

At examination I found expectoration of the white, a cough with a considerable area of consolidation; there is copious sputum, rapidity increasing weakness, profuse night perspiration, quick pulse with a transitory high blood pressure (from 120° to 103° F.) and falling to abnormal in the morning.

Here is a case of typical Pulmonary Tuberculosis, threatened to run an acute course.

Since I last saw her, she has recovered some from a portion of the illness written six months since. On answering the same patient a few days since I found her to be very much improved. Her mouth, ears, eyes, at the first examination, were dry.
Plainly to understand that with due it was a
question of a return to the Settlement or a
further piece of distant travel; the former case
was adopted at a great personal sacrifice but
I was happy today that the result promises to
justify the course pursued. The children also
are in rude health.

As a further exemplification of the prophylactic
influence of the climate generally, many mention
that I have met with second cases of the disease
which has shown itself in natives of the Settlement
who had moved to the Coast District and of natives
of the Coast Country who have developed the disease
after removing to a less favorable climate.

For example, out of forty five Australian
Natives studying medicine in the Edinburgh
University or at the College of Physicians and
Surgeons, during my time of residence there
no less than three had died of consumption
to my knowledge, within twelve months of my
graduation, leaving the inenjoyed thoroughly
good health previously, at any rate they had
every appearance of health and strength when I
knew them; two others were recommended from
and returned to Australia, of one of the latter
I never heard afterwards, but the issue after returning to Australia and recruiting his health eventually was enabled to go back to Sydney and take his degree. He is now in practice in Melbourne and in good health. Two of the cases which resulted fatally however, the effects of the chlorine would have to be discounted, as the habits of life were unfavorable.

Again, a young friend of mine left Scotland to study at Oxford University three years since. He was in thoroughly good health at the time of his departure; his brothers and sisters (all the children of a brother who died from Pott’s) are still in splendid health. He died in eighteen months from consumption.

Cases could be multiplied to innumerable but sufficient has been said to fulfill any purpose of showing that necessity should be looked upon as a concurrent rather than as a cause, only coming into play when other and more direct causes are at work.

I have only come across these cases in practice of Pott’s, in hospitals of the Islington, and who have constantly visited there despite the large number of the population, who are the suffering
of highly neurogenic persons, many of whom have left the mother-country on account of mental weakness.

Of these latter a good number have from time to time come under my notice professionally and in the large majority of cases the children enjoyed excellent health.

It is of interest to notice in view of the strong and divergent views which have been enunciated by different authorities with respect to the connection between Anacol and Physiocracia, some holding the Anacolia is provocative of, and others tending to the prevention of Physiocracia, the vast majority of the children of Physiocracia persons whom I have been called upon to attend, seemed to have a strong anacolic tendency, and I have seen many grounds in their treatment for the opinion held by Rousseau (In Anacolia Palmaria Physiocracia 1248) that iron should not be given in cases when a Physiological Sanguis is suspected, as this drug, generally in the form of Manganese, has in my experience proved so very helpful in cases of anacolism in that the tendency would fail to recur. I recall a single case in which it proved successful. It seems as a cause of Physiocracia must under
Certain circumstances be admitted. 

[Text continues...]

Here is less Plasmodia among populations living on HIGHLY LIQUID, PERVIOUS soils, than those living on LOW LIQUID, PERVIOUS soils. 

Here is less Plasmodia among populations living on HIGHLY LIQUID, PERVIOUS soils.
on sloping impervious soils, then among those living on flat impervious soils.

These conclusions certainly show the residence upon a damp soil is one of the factors in the production of a disease, the origin of which is probably very complex.

Temperature again is not by itself a cause of Pneumonia.

In Europe it is common in cold, temperate, and tropical countries, in Norway, in England, in the West Indies, but have any statistics been published that show that any great difference exists in the mortality ratio in the large Centres of Europe from this disease.

The two most striking facts to be considered with regard to the causation of Pneumonia are, its scarcity amongst sparse populations, and scarcity the comparative immunity enjoyed by the residents at high altitudes, and the fact that it has been shown to decrease relatively to altitude (other factors being as far as possible excluded) of this Switzerland and being the best example although similar results have been shown to exist with 785 feet to the large towns of the Alps (Archibald Smith) and Lombard quoted by Horner which
The community, from the climate enjoyed at high altitudes, appears to dispose of one condition as a direct cause which was once thought to largely influence the prevalence of the disease, viz. great and sudden changes of temperature, which are common at most great altitudes, although the equability of temperature and corresponding atmospheric humidity, exercise marked influence in those districts. (Herzen 1838.

With regard to contagious considerations as a cause of P. B. the return to which it practically ceases to influence must be very small after the experience of the Brompton Hospital for Consumption shows that by a wholesome, good food the neutralise the effects of the conditions which render other tuberculosis.

Such an institution in their most dangerous forms (C. J. S. kloissi, Pelmenis consumption).

Whether the Bacillus Intermedius is a cause...
or only an accompaniment of the Fever; must in my opinion still be considered sub judice. Koch and those who adopt his theories in their entirety, may be right in considering that the bacteria of the sole direct cause of the disease, and that all other causes precipitate or predispose to its occurrence, but the weight of evidence appears to me to be altogether on the other side at present, and to point to its being merely an accidental accompaniment without which it is not necessarily conceived to arise. In any case a humble analogy should be disposed to compare it to the lacerous filtration, sometimes present and sometimes absent in smallpox.

It is beyond the bounds of controversy that corresponding with its accompanying deficiency of fresh air and sedentary occupations, there directly to produce consumption, and the experience of the country parts of Australia is only repeating the history of a more marked form that of the United States of America, in the ancient settled part of which consumption is almost as common as in Great Britain, probably owing to the excessive work of body and mind, deprivation of solar influence, improper food, bad sanitation/drainage &c. which follow in the train of overworking and not by reducing...
bodily region, which of all existing influences probably has the greatest effect in the production of consumption.

Those diseases which show their effect upon the Constitution, and directly or indirectly upon the lungs may be considered to bear upon the causation of the disease, would so far as they present marked modifications in type as they are met with in Australia from their characteristics occurring in Great Britain seem to call for some considerations as the influence exerted by the Australian climate and surroundings by affecting them as predisposing causes must indirectly influence the frequency of the disease under consideration, but from the insufficiency of their bearing upon the case I have left a short account of them for discussion after a general summarising up of the probable forces at work in the production of the acceleration of the tendency to tuberculosis existing in Australia, and this from the great variety and complexity of the predisposing causes I propose to do by taking as a type and describing in detail the climate of the locality in which I reside and to and causers in doing so to elucidate those.
peculiarities which may be supposed to account for its generally favorable influence.

The town of Bathurst, the most important inland Centre in New South Wales, contains within its boundaries about twelve thousand inhabitants, and is the centre of a large pastoral and agricultural district.

Of all the settled districts in the colony upon the Tableland, Bathurst possesses one of the lowest rainfall and greatest heat days. Beautifully situated upon an undulating plain divided by trees in the centre and lightly timbered on its outskirts as they slope up to the base of the Hills which surround the plain on all sides, the site of the town gradually slopes towards the bed of the Macquarie River, which for about nine months of the year flows through the centre of the plain, leaving its dry sandy bed with its contained chain of lagoons to present it during the remaining months of the year; the Town lies at an elevation of 2,200 feet above the sea.

Its laid out upon the rectangular plan in use throughout Australia, into streets 100 feet wide; most of the houses lining the streets (except the two or three principal ones containing the
large shops and other business places are, approached from the streets through small gardens, and being
considerably, substantially, of brick, with gabled roofs,
wood-sheathing, or slate or roofing, are almost all
provided with verandas and balconies, or which
most of the inhabitants who are not engaged in business
pursuits pass the greater part of the day; and the
town itself is well provided with all the requirements
of modern civilization and many of its luxuries.
The School is for an annual subscription of a
Junius places a library containing ten thousand
volumes at its subscribers' service. On a magnificent
balcony and in the lofty, well-furnished, reading rooms
are to be seen all the best British and American
newspapers, periodicals, and novels, and an
unusually good geological museum is attached.
The chief Protestant Religious sects and the
Roman Catholics (largely represented throughout
Australia) have beautiful churches surrounding
the Park which forms the central square or
core of the City.
Surrounding Alps which both for size and beauty
of arrangements compare favorably, with some of
the best in London are centally situated.
The heat of Summer is handled less intolerable
by the luxury of good and comparatively despise of local manufacture.

Stones and bricks are available at a moderate cost and facilities for outdoor exercises and sports fall.

The Cricket and agricultural show grounds and four ornamental Parks, each of an area of about 100 acres, are planted with ornamental trees, providing a sufficient capacity for a fair larger.

At night the climate is invigorated by every other feature in conducting to an open-air life to the sites such as lifelong residents of Great Britain would find hard to realize.

The vegetation of the plains upon which the town is situated while supplying abundant crops, shows the scarcity of water and degrees of the atmosphere is never much nor excessive.

The surrounding plain country up to the base of the hills and the hills themselves are clothed with open forest, Doors for the sweet part of underground, and composed of varieties of the Scoggin Encyclopaedia. With the exception of the meadows with its running stream, or chain of ponds, according to the seasons it proceeds to water in the form of lakes or streams.
and no marshes, from which the atmosphere can
drain moisture.

(Such a thing as malaria is unknown so that the
supposed antagonism between Pathiac and Malaria
was not come into play.)

The Blue Mountain Range shuts off the Eastern
and South-Eastern Coast locos to a great extent,
and the remaining 6522 which reaches the town
from the Coast at eight or nine o'clock in the evening,
has been deprived of most of its moisture in its
progress over the thinly timbered Mountain Ranges.
The prevalent winds are South-Eastern (the trades)
an in addition to the columns arrived from the
Antarctic regions they are further lowered in temperature
before they reach the interior of Australia or at least
the part of which I am writing by their passage
over the Snowy Mountains, a spur of the Australian
Alps, situated at the northern extremity of the range.
Some of the peaks of which attain an elevation of
upwards of three thousand feet, and are covered by
snow for the greater part of the year.

Ecologically, Batlow is upon a formation of
granite, in some places disintegrated and
producing by the decomposition of its flaque
bands of clay. These are known northern extractin
and do not present an excellent natural drainage
the importance of which fact in view of the remarks
of Dr. Buchanan and Rowett, with regard to
the presence of Patrick upon damp soils, cannot
be overestimated.

Battens Plains lie upon the Saltland west
of the Blue Mountains at such altitudes that
spurs of this range project into the Plain to within
eighty or the miles of the Ocean.

Battens lies about one hundred and twenty-five miles
west of Sydney and about ninety-six from the
Coast with croos this

The climate is extremely healthy and invigorating,
though frequently very cold in the winter months,
freezing occurring almost nightly for between three
and four months of the year.

The rainfall at this point is sometimes very great.

During January and February, the hottest months
of the year, the mean maximum temperature in the
shade is about 96.8° F and the mean minimum
during the coldest months is June and July about
58.1°.

The mean annual temperature is 67.0°.
The mean daily range of temperature is 29.9.
The rainfall is about twenty three inches annually.
in seventy-four hot days.
The extremes of temperature range from 90° F to 107° F and the humidity is 75% (0 to 100%)
The barometric pressure stands at 28.14 inches.
Barrington is within three hours by railway journey of
the cool climate of the Mountain at Mount Victoria
and Katoomba and within six hours of Sydney
with its perpetual winter warmth.
In attempting to account for the Comparative
Immunity from Rheumatism, and the favorable cure
taken by existing cases amongst Residents of
the Tableland, characterized by the Done and Distance
of which Irene, in addition to the cheapness, an
abundance of wholesome food which it shares in
common with the rest of Australia the health
which these causes which provide themselves are the
following.
The dry clear air while interposing with the
equality of temperatures (to effects of which
may be guarded against by great skill by
the adoption of suitable clothing); for abating
as it does moisture from the soil by its absorbine
property of the atmosphere, yet owing to the good natural
drainage fails to absorb a sufficient amount
0 to interfere to the extent which it does in
moisture. Climate with the force of the direct rays of
heat and light of the sun, leading to great
Differences between sun and shade temperatures, and
times of night and day, for the nine months during
which summer may be said to lasts, though in winter
the difference is not so marked, yet both by its
absolute and relative humidity renders perspiration
and the evaporation of moisture by the lungs so
frequent as to make the great heat of summer,
which sometimes to 100° or more quite intolerable
and miraculous and to console us in the rapid
sweat of perspiration with a cool temperature at the
same degree, the moistness of the air of which
dissipates, means produces extreme laxitude
and no doubt contributes to reduce to a minimum
the mucous secretion from the bronchial apparatus.
The mildest effect of the climate in modifying the
customs of the Indians and determining habits
of outdoor life must be noted.

The importance of such habits as a hygiene factor
independently of all other evidence would appear to
be shown by the least favorable experience as regards
the course of Pneumonia, and with it the case of
contiguous religious communal orders whose regulations
and habits of life preclude an equal exposure.
to the open air and the Sun's rays and light.

In exceptions to which I allude are the cases of

the insane of certain Roman Catholic Convents, the

lunatics of which are engaged in teaching the greater

part of the day, their leave of recreation, the greater

part of which are habitually passed in the open

air, during three months of the year, while such a

course is admissible, being after summer, and

during the winter months as a consequence

unavoidable, that leading to an entirely indoor

life.

Laurence (Diaries of St. Luis, by Dr. J. Forbes

P. 383) gives an account of a certain Epiphanius

association of women with which he was for

four years professionally connected, and which during

that time was entirely modeled as regards the

personnel of its members two or three times during

that period, owing to the entire loss of its minister

from Pulmonary Consumption, with the exception of

a single member who continued all along to enjoy

good health, consisting of the Dames of the

Establishment, the Cook, and three Sextons

who had charge of the garden, kitchen and

laundry. Laurence attributes these results
to the effect of the depressing mental emotions.
produced by the intense severity of the climate of the Establishment. He points out that the diet was healthy, though not sufficiently so as to have directly affected individuals not under the influence of distempering mental impressions and to correct entirely to the rational spirit which kept the attention of these women habitually fixed upon the most terrible truths of Religion.

It will be observed that Lacuere makes but a passing allusion to the somewhat remarkable fact that those individuals who retained their health were probably a good deal in the open air and accorded its results entirely to nervous causes. Inclined to think that he has overlooked the most important influence at work, and for the following reasons.

The climate in this district presents in a modified degree the same phenomena. Dittricial patients, of whom a considerable number come out from the United Kingdom, Island chiefy, under the impression that the climate will prove beneficial do not as a rule improve much, or at any rate not to the same extent that other individuals similarly circumstanced do, and with the exact fact of the case I have had ample
opportunities of becoming acquainted, when acting as the professional substitute of any medical man for the last thirty years. He has been for a long time assistant to several of these institutions, which are scattered all over Australia even in small villages, their occupation being the education of the Roman Catholic children, their total number being nearly one-fifth of the whole population of the colony.

It is in the Barracks Converts with the conditions of which I am most familiar, and it presents a good field of observation as in addition to the usual quota of immunities, there is of locally developed cases, and others introduced from Europe, from its site and central position it is used as a sort of hospital for the Sydney institutions scattered over a very large district. It is chiefly to my observations in connection with this Institution, supported by those of any letter which attended the Barracks for many years, that I base inferences for the following facts with regard to the course taken by the diseases amongst its inmates

This appears to me to differ from this
Course usually taken by Patients in Great Britain, or at any rate it is not marked by the accumulation of symptoms observable in Second Practice. Both from my own observation and that of my Family concerning the mode of life of these ladies I am disposed to attribute the unfavorable nature of Course taken by Consumption, not to the depressing actions to which Society tends probably assigns them, not despairing however that the absence of family ties and effusions may have an unfavorable tendency, but rather to the sedentary life and the deprivation of air, light and sunshine.

The dietery is by no means rigorous, being fully as nourishing and nearly as varied as that in use amongst most people in comfortable circumstances, but the exception that meat is prohibited on Fridays and certain fast days as a general thing (but it is an open question whether occasional abstinance from meat in a country in which those meat meats a day are the rule is not an unwise one) but it then days eggs

and fruit are permitted, and meat may be considered the only time in which the dietery is distinctly insufficient, but abundant
Those persons who are in good health. She knows
generally quite recognize the desirability of maintaining
work for those engaged in important situations,
and any symptoms of failing health is the signal
for the regulation of their duties by the medical
attendant, quite irrespective of ordinary Causes of
Regulation.

In every way these ladies appear to lead happy,
contented lives, and to entertain a conviction of
their usefulness to their fellow beings and an
assurance of future blessings enjoyed by
comparing few, and I can quite unable
to believe that mental emotions are much to
blame in their case for the prevalence and
fatality of Consumption amongst them.

On the other hand in the same town is situated
one of the large farms of New South Wales, which
for many years past has sustained the
hundred or a hundred and fifty, peasants
and other inhabitants in their state and to the credit of the
district my letter has for many
years past been Government medical officers
and to his name and to the credit of the
Doctor I am indebted for my following facts.

The district seems to be certainly not so good as that
of the present, it's general condition of the
Larvesta can hardly be supposed to be more
sorthing, and yet the striking fact remains that
there is almost entire absence of consumption.
In not one ease that I could discover after looking
through many carefully kept books dealing with a
period extending over eight years had a prisoner
come under treatment for Phthisis or any suspi-
ous pulmonary condition, though the meries had
not been noted on admission.
The keeping apartments and ventilation generally
are quite as good as those of the East.
The one great difference from a hygienic point of
view between the two inus of life appears to
lie in the comparatively open-air life led by the
prisoners who for several hours daily are compelled
by the prison regulations to undergo compulsory exercise
in the open air.
These facts seem to be strongly corroborative
of the views which are becoming so general as to
the importance of the influence exerted upon health
by solar energy.
One other fact that occurs to me in this connection
is forming the presumption that the deprivation of
open-air air and sunshine is the predominant cause at
work in that most of the cases of Phthisis to which
I have been informed are proceeded and accompanied by anxiety and aumors lawmaker, this affections for which in any republican an open air life is in many cases almost a specific, and also that I cannot learn that the disease has ever occurred amongst the lay-sisters whose associations demand that much of their time should be passed in the open air, nor amongst those of the race who engage in the district training of the poor: to what salient this may be due to the original preparation of the constitution of the latter, I cannot say, but it does not appear to be any special selection.

The above facts would also seem to show that the decease of him, before alluded to with regard to the alleged antagonisms between anemia and Pistorio are of by no means universal affliction. I now come to consider the probable factors in the production of our general good health, as regards comparative immunity and perilous course of the decease when established. Several cases of Pistorio have come under my notice which after having received temporary benefit from the Seaquins, be coming to another having remained stationary or retrograded during a midsea upon the coast, and have rapidly
As a result of removal to the Plateau and improve
the elevation of Badung 724 feet above
the sea leads to somewhat diminished barometric
pressure the mercury standing in the glass at
28.11. inches leading to a modified degree to
the effects attributable to residence at high altitudes

Increased action of the skin, improved nutrition,
and better tone.

Improved tone of the heart and of the contractile
fibers of the muscular system, accompanied by
greater frequency of the heart's action as the
Commencement with a return to the diastolic
average after prolonged residence, with greater
force of contraction and acceleration in the
progressive motion of the blood.

Increase in the number of respirations at the
beginning, with return to the normal number
after prolonged residence, with deepening of
respiration.

Strengthening of respiratory muscles and elastic
fibers of the bronchi,

Increased determination of blood to the lungs
increase of the quantity of respiratory capillary
units from the lungs, and greater facility for the
Elimination of carbonic acid, with an increase in its quantity.
Increased appetite and increase in the amount of food assimilated.
More blood formed and the different organs better nourished.
Nervous and muscular systems stimulated to greater activity.
Response increased.
Acute change increased.
The above physiological effects being due to the following discrepancies from the prevalent condition at low levels.
The diminished barometric pressure and saturation of the air.
The lower temperature and greater dryness of the skin.
Increased purity of the air as regards organic and inorganic admixtures and microorganisms.
The increased action of light.
Comparatively scarce of these.
Probably increased amount of positive electricity.
In Dei Soli (Hermann Becker, P.M. Seemann, Leipsic 1846 – 1851) P. 370
(1. C. Willmar Pulmonary Consumption)
At Balmoral the increased solar influence due to the varied condition of the atmosphere leads to an increased difference between the sun and shade temperature of nearly 10° compared to the Coast District conditions at the same latitude.

The increased receptivity of the air attributable to the increased elevation is heightened by the beechwood glades of the Eucalyptus forests which clothe more or less thickly the surrounding hills, and the borders of the plains, and over which the prevailing breezes pass before reaching the plains.

The beneficial influence of these forests makes itself felt in several ways. The trees which compose them are evergreen and of large size, and consequently lead to extensive evaporation. Indeed Baron Von Müller, the well-known Australian botanist, has calculated that they are capable of giving off water to the extent of several times their own weight in 24 hours, and that they continue largely to the dryness of the soil, while their decaying trunks and leaves provide probably moist and generally antiseptic action, and may even to a certain extent arrest a typical influence in checking vegetable decomposition, in this respect resembling the Pine forests of Europe.
(Rossmore to England and London to France for example). an influence parallel to that believed to be exerted by Stephen Sprigg服务于 and the Searls.

That Eucalyptol even in a concentration from may fail to destroy the Bacillus Tuberculosis but differs from the remarks of Dr. Hirsch in established (Pulmonary Consumption P. 351-352) but it by no means follows that exposure to its action even when much diluted may not have a

Discouraging influence upon the development of the group in accordance with Laidell's discovery of the possibility of forming culture solutions containing bacteria by discontinuous heating, a process vitally insufficient to destroy the bacterial nucleus but dealing with those by fostering the place of those which died out being taken by new ones which by the heating process were destroyed in the growing stages.

It seems surprising that the Tubercular Bacillus, instead of the living substance of the lung, are swallowed beyond the direct influence of even a most powerful gymnastics which ceases probably, nevertheless it is conceivable that the vitality of the substance of the lung in which they are embedded may be or improved by the
beneficial effect upon the bacteria of putrefaction, which I believe undoubtedly follows the local exhibition of antiseptic) and its irritability thus lessened, that the lung, by its improved condition of the great antiseptic vitality, may be placed in a better position to resist the invasions of the Bacilli. I suppose that the Ecoclystopol diffused throughout the atmosphere should be presumed to exert some fact influence (which surely advance as no hypothesis assuming that the Bacillus Intermedii is really antiseptic agent in Putrefaction) to merely to suppurate the a tendency to the effect which we know it to have in many cases when applied topically by inhalation 90% of diminish branchial secretion through its action as a staphylic, removing the factors and acidity of the mucous secretion and imparting tone to the mucous membrane.

The seasons is slightly felt in Bathurst during the evenings, and as a rule receive cool nights in summer without bring moisture, which in Sydnoe 10% is almost entirely intercepted during the passage over the Mountains Range.

The general effect of the climate of the Tableland is bracing and stimulating.

The large number of fine sunny days (nearly
To be in the habit of spending a very large proportion of time in the open air during the height of the summer, on the balconies or verandahs during the heat of the day, and to sleep with widely opened windows at night, and to uncover the head at night. And I have found copper and marble tables as a result of this practice, carried out even during the winter, of rare occurrence, and it is part of my routine practice to mention upon such a course in most cases in which disability is a prominent symptom of any disease, and this with the best results.

As an illustration of this fact, I may mention that it is a recognized fact amongst sailors, seamen, drovers of cattle, and others, who pass much of their time either entirely in the open air or under canvas, for a time is considered distinctly a luxury by such people in summer, no amount of a blanket being considered necessary; that disability to colds only comes with a return to the ruling life of civilization.

I am disposed to lay great stress upon the favorable effects of a healthy life of an open air life or a life as nearly approached such as individual cases admit of, as is the only means by which the lungs can be assured of an air supply absolutely free...
from the previous calculations, based with gases which tend to increase the putrefactive lactic acid, and expired Carboxic Acid.

An additional advantage conferred by an open air life is the marked improvement which usually takes place in the performance of the digestive function. One of the best illustrations of this effect is the favorable result occurring from a few days spent entirely in the open air after picnicking excursions involving that mode of life. Recent to Australians as Camping out.

The Australian Climate is admirably adapted for such a life for some months of the year in the Tableland, and for the greater part of the year upon the Coast and thousands of persons in the larger towns avail themselves of their holidays to make excursions along the Rivers, fishing and shooting upon the Tableland, and in Sydney along the shores of the Bays of which Sydney people are so justly proud.

The result is a stimulating one to all the vital processes, circulation, respiration and excretion, and these effects have been assured by people who have accustomed themselves to these tramps that they looked upon them as the Vital Class.
Winter does upon his annual sandal trips and
that they did not think they could do without them.
He longing for an open air life amounts to a
passion with most natural-born Australians.
Surely this influence is at work, however
poorly they have succeeded in inditing them
in establishing a high rate of vitality on the South
Island is clearly shown by the following comparison
of the Death Rates of Sydney and Bathurst.
When all due allowance is made for the fact that
Sydney is a large town (coming Italian fourteenth
or fifteenth in the list of the large towns of
Europe, America and Australia) with all its
drawbacks from a hygienic point of view while
this fact remains and in which Sydney does not
compare particularly favorably with the large
town of Great Britain, not merely from such
strictly sanitary conditions, as America which
is very defective but those due to overcoming
a special feature of Sydney in the poor parks,
coming from poverty, standing with the
accompanyingscenes of the comfortlessness
of life, dirt, ignorance, and neglect.
It seems to be reduced by the comparison as well
the more striking when it is borne in mind that
Sydney has a lower death rate in spite of its many insanitary drawbacks than any large European town (as shown by the table given at page 7 of No. 44 Paper)

Deaths per 1000 of the population of Sydney and suburbs General Death Rate.

<table>
<thead>
<tr>
<th>Location</th>
<th>No.</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>16</td>
<td>1.49</td>
</tr>
<tr>
<td>Bathurst District</td>
<td>12</td>
<td>.84</td>
</tr>
<tr>
<td>London</td>
<td>21</td>
<td>3.2</td>
</tr>
<tr>
<td>Rural England</td>
<td>2</td>
<td>2.3</td>
</tr>
</tbody>
</table>

(These figures are taken from the Vital Statistics of New South Wales and a special report prepared for me by the counting of the Government statistical)

With regard to these prevailing causes of Phthisis so common in other countries, insanitary air and insufficient food, the importance of which can hardly be overestimated, Phthisis being certainly a disease of Malnutrition, these play a far less important part in colonial life. Poorer in the large towns food of less variety is cheaper.
Charitable organisations abound, and although the poorer districts of the larger towns are much overcrowded, yet the evil is of comparatively recent growth, and except perhaps in Sydney has never attained to the unhappy prominence which it has presented for generations in Europe, and enlightened sanitary legislation is early upon remedying it to a more satisfactory condition by the abolition of rookeries, and sound building regulations.

With regard to the ventilation of rooms air being long hours of confinement in overcrowded, ill-ventilated rooms, the conditions which render so many occupations inimical in Europe, then prevail to a far less extent in Australia.

I believe that no approach to the system existing in New South Wales and the daily working hours in most trades are limited to eight, by trade organizations, and even by Trade Boards, of Factories and Steamers, in which the competition is greatest, and organisation weakest, though the hours of confinement are somewhat prolonged, yet the mildness of the climate, and custom ensures the good ventilation which goes so far to counteract the injurious effects of sedentary occupation, and the enormonsed building.
Generally spent in the open air, with the abundance and good quality of the food portion. The health of all seemed to work good for its preservation.

In special liability of certain occupations to Pneumonia hardly comes into play, there are no cotton, few quarrymen, and very few country hands, nor though there were many asylum amongst professional freaks have been able to ascertain this. I trust of COMPANIONS proves so fatal to the People, but of this I cannot speak with certainty. During eighteen months which I spent as house-surgeon and house-physician of the Royal Hys Hospital in London several cases came under my observation amongst the outpatients in which a slight cold proved sufficient to induce Pneumonia in both young children and in St Johns where house-physician at the time was taking my attention to this. It fact that in some of these cases which he attended to the board of the Hospital although therapeutically the same treatment was adopted as had been pursued during the attendance of the case in the old patient room, under which no improvement had taken place, yet upon
Hospital diet with rich cleanliness and good air improvement was speedy and marked, and of these factors it seemed to me that the food was the least important.

As the influence of these diseases upon Peruvian in Australia which may be looked upon as preponderant to Peruvian in Great Britain is naturally affected by the modifications which they themselves undergo, a few remarks concerning them may not be considered out of place, and those which I shall briefly consider are those ordinarily mentioned in Dr. Booth as immediately precluding to the diseases of Yaws and Yaws fever, Scarlet fever, Measles, Bronchitis, Pleurisy and Pneumonia.

Yaws fever may be divided into two: one which does not occur in the colonies, and there seem not to have heard of its presence during the last thirty years. Proceeding to which period an outbreak amongst the prisoners followed its introduction in an immigrant ship. These migrated here at once isolated as far as possible and inspection carried out, but the particular for which I am indebted to any Figure is one at the time acting as Government Medical Officer. Show that the deaths were numerous, so that Australia probably took her immunity from
The disease was less isolated practice than anything else, for though small-pox in spite of an incubation period of at least six long had been repeatedly introduced to every seaport, its prevalence to the ports of China, where it is very common, and from all that I can learn on the subject it plus seems to be correspondingly rare if indeed it is very rare with them.

Scarlatina is very common in Australia and one attack does not appear to confer immunity to the disease as it is the case in Great Britain. There have been several cases in which the disease has occurred more than once, and in one particular case three times but from the comparative mildness of the type which prevents the infection from being almost nil in the production of Rash.

So far epidemic has occurred during my residence here, and sporadic cases are not uncommon but with few exceptions the symptoms are those of Scarlatina. Rash, slight or absent, the throat symptoms not severe, the temperature rarely exceeding 103° or 104°. and many cases came under notice for the first time when rash was visible which is not uncommon has disappeared. The epidemic however very much in Sydney and
The condition proved most fatal in Bartlett as far as any experience goes was characterized in a large number of cases by the appearance of gangrenous spots on different parts of the body, almost always in very young children and their appearance always preceded a fatal issue.

Bronchial complications are comparatively rare and allowing for the varying evidence of different epidemics the mortality of the whole is very small and any constitutional weakness remaining lasts almost always towards the ordinary usual complications. Although epidemics of Measles are not uncommon the course run by the disease is generally a mild one as in Scutalina, the lungs are rarely involved and the coryza-like symptoms are slight as compared with those accompanying the disease in Great Britain and consequently the extent of weakness of the respiratory tract and therefore of susceptibility to future mischief is comparatively small.

The one point of conspicuous interest with regard to Measles in Australia is that to live a less fatal than in Scutalina does one attack influence the liability to a subsequent one. I have had many opportunities of satisfying myself upon this head. I have had under any case two children
in different families during in each case those attacks of undoubted tuberculosis and have been frequently informed by the parents of children suffering from the disease that the attack is not the first.

An epidemic of tuberculosis occurs occasionally, but generally in a very mild form.

Any form of the disease, if its frequency and virulence were a rather more extended notice, as a possible factor in the production of Phthisis.

It is found less so in Great Britain (Murchison) that the age at which the disease is contracted ranges in the great majority of cases between the ages of fifteen and twenty-five years.

The percentage of cases in which the disease was contracted between those ages was calculated by my friend the Late Dr. George Binyon at 60 percent of the cases occurring at the Sydney Hospital, this apparently excessive number would be accounted for in part by the fact that recent arrivals in the colony from Europe would appear to act as a strongly predisposing cause, the liability of new arrivals over old residents to contraction of the disease having been stated to be in the proportion of ten to one, and as most recent arrivals are young adults this would tend to explain.
the very large proportion of cases occurring between the ages abnormalised. This makes as this disease may act as a factor in the causation of Pithuri would do so by leaving the constitution weakened and susceptible to attack at an age peculiarly liable to the superficial disease in a larger number of cases then would be supposed in Great Britain.

With regard to the influence of season, Epidemic Fever at the Cachet did not have its reputation as an autumnal fever, the greatest number of cases occurring usually during the latter end of February and in March.

Every Autumn occurs in a numerous crop of cases in all the large towns, and the same thing occurs to a less extent in most of the Country Districts and it is worthy of remark that the prevalence of the Fevers seems to be in direct relation to the amount of rainfall, that is, that the weaker is far more frequent during a dry season, this prevailing being more marked in the Country Districts than in the Towns where the operations of artificial draining are better carried out. This leads me to think that a theory which has met with very general acceptance is untenable in the colonies in part, or at any rate incapable
If we turn to the origins of typhoid fever, viz., the
heat and dust of the Australian summer is capable of destroying the vectors of pathogenic organisms.

A heavy fall of rain, if prolonged, and not followed by warm weather and if short intervals after a
drought during which typhoid fever has been

Without being always sufficient to check its spread
and what is more difficult to understand is generally
accompanies recovery of marked improvement
in current cases.

This is probably so far as the non-occurrence
of new cases goes, due to the air becoming
clearer, fresher. During the dry weather both typhoid
Droos (which are carried away by the waters
channels after a downpour; the improvement
of actual cases of the disease is probably
attributable to a general clearing up of the
system, for it is a common experience that one
feels fitter and more fit for work after rain
that great dry heat has a paralyzing influence
upon the atmosphere as a general rule, is.

Highly probable in view of the indisputable fact
that warmth and moisture seem necessary to
the development of many of the lower organisms.
but this would probably not apply to the towns of Ipswich, Sunny, the spread of which on the contrary would be more likely to result. The drainage in most parts of the colonies is a surface one, and the scarcity of water which has not yet been overcome in the Island Levees prevents the proper flushing of drains and the disposal by this means of faecal refuse, in addition to the传 of muck into the river, to which we observed the beneficial influence of the break up of a drought in the way of preventive

Drought is not so marked as in the Country Towns and Districts and this in addition to the contamination of the air leads to pollution of the drinking water by sewage into the river from which it is obtained, or by the pollution of the general reservoirs where a system of water supply has been established by the means accompanying the associated fumes which in an Australian

Drought would be highly difficult. There is a strong impression prevailing amongst medical men practicing in the Colonies that much of the Contumes Fever differs essentially in type
from that which prevails in Great Britain, and when it is borne in mind that a very great proportion of medical men in Australian practice hold British qualification and have been something ofBesides, besides borrowing their ideas on the subject from British text-books, this impression seems to be treated with consideration.

Although most medical men in the colonies would admit that Syphilis from in Australia and Great Britain is essentially the same disease, still clinical influence is credited by many with having produced some marked modification, and the influence supposed to be exerted has by several able medical men been described as "material."" I am disposed to think, however, that a scientific examination of the matter has, in fact, revealed a symptom of the disease, and that this symptom is the only one that can be transferred to the diagnosis of the disease. As far as my own experience goes, I have never observed a belief that this is one symptom and no one only.
does. These hives as we met with in the Australian colonies differ at all essentially from the British prototype and this symptom is the very general absence of the Ipheich rash; in a large proportion of my cases, careful examination has failed to show the presence of the spots throughout the whole course of the disorder.

In all other important respects, viz. the uncertainty of duration, the most common extending from twenty to twenty-four days, the facility of relapse, the absence of leuconychia, and distinct temperature chart, with the typical post-mortem lesions, the cases with which I have been led to do precisely resemble than which I have seen in ENGLAND and Scotland.

The term Colonial Fever came into use as a popular expression at the time of State aided Emigration to this Colony from the number of new arrivals affected by the disease.

The prevalent nature of Ipheich Fever is now attracting the attention which it deserves from the Colonial Boards of Health and to which Ipheich Fever may introduce the occurrence of Plague with more less much diminished.
Bronchitis, Pneumonia and Fluery.

The important source of this Pneumonia in Great Britain is undoubtedly imperfect recovery from bronchial. Pneumonic and pleuritic attacks acting as an exciting cause, and one of the great factors in the production of the comparative immunity from the disease enjoyed in Australia is the relative immunity or the favorable contrast as regards the prevalence and severity of these affections observed in their colonies.

Bronchitis is comparatively rare and mild in type, but with regard to Pneumonia and Fluery this contrast applies rather to the eventual development of the products of inflammation rather than to greater mildness in the nature of the disease. Flueurery is the inflammatory stage.

Pneumonia and Fluery are not uncommon in the ordinary epidemic form and epidemics of fluo pneumonia have occurred twice within my own experience in this Colony, of an epidemic nature and virulent type.

But in addition to these epidemics due to influenza in the first place, but what I have preferred to call epidemics of Pneumonia from the fact that these complications were present in.
Almost every case two epidemics of diphtheria pneumonia have come under my notice within the last three years, and in view of the recent discussions which have taken place in connection with this subject (British Med. J. 1887) it may be of interest to examine briefly its particulars in the cases to which I refer. The occasional epidemic nature of pneumonia, as suggesting its possibility of being due to contagion, has apparently only recently for many years received any consideration.

Thus Copeland in his recent dictionary merely refers to it as a complication of influenza.

Dr. Macgregor Stewart does not refer to its occurrence in his course of lectures.

Dr. Foster writing in Shaw’s dictionary of medicine says that pneumonia differs from the specific fevers in not being contagious.

Dr. C. J. Roberts in his Theory and Practice of medicine says that some authorities regard pneumonia as a specific fever of which the pulmonary inflammation is but a local manifestation, but leaves indication of its contagiousness or otherwise. and

Dr. Wilson in Reynolds’s System of medicine mentions somewhat incidentally that epidemics have been occasionally reported, but are probably due to
great atmospheric changes.

While attempting to analyse the epidemic causes which flow from the various possible influences which may make their effects felt, and our present insufficient data would be probably inconclusive. It appears that Pneumonia cannot be considered as due to any one cause, but a multiplicity of causes seems to be both logical and useful, as leaving room for the results of further research, and in view of the fact that so far epidemics of the disease have been reported in the British Medical Press of late years, chiefly those of 1873, 1874, and 1875 in Australia, and in the same time that few Australian practitioners of any reputation have not met with them, one must conclude that the epidemic influences at work, whatever their nature may be, are more potent or powerful both here and in Australian States, in Great Britain, and probably Europe generally.

In connection with the fact that Copley in his Medical Dictionary states that epidemics of Pneumonia have been attributed to a material origin, it is of interest to realise that many cases were noted during two particularly wet seasons, when all vegetation tended to rankness, but as an accompaniment to doubt marked atmospheric
would have taken place which might possibly have 
accord to existing causes.

North Sea Epidemics took place in summer when so 
a rule fewest isolated cases are met with.

One of these Epidemics out of fifteen cases 
mort of which were complicated with pleurisy, six 
proved fatal.

Three brothers whose ages ranged from twenty two 
to Twenty years residing in the same house and under 
strictly similar circumstances, and two sisters 
and a mother whose ages ranged from sixteen to 
forty three years living in the house and in the 
same circumstances, succumbed, double pneumonia 
and pleurisy being present in all it cases.

Of the remaining nine cases all recovered but 
slowly and critically, and with two cases of 
pleurisy with effusion which it eventually proved 
necessary to operate for.

In the second Epidemic, out of eleven cases all 
recovered rapidly and satisfactorily, the inflammation 
being chiefly confined to the right chest.

Other cases occurred throughout the districts of the 
Same time as both occurred but these were all 
not. I had an opportunity of seeing.

Dr Reid of South Australia in the Australian
Medical Events for June 1886, in the course of some remarks upon an epidemic of pneumonia which he reported in the Journal, attributes the origin of the disease to the inhalation of the mycelium and spores of that species of hystrix seen occurring on the leaves of the wheat plant and known as Rust. Dr. Reid found these under the microscope in all the cases which he examined.

With regard to my own cases, my observations partly date back to Reid's Reference.

During the first outbreak which took place in 1886 and before Dr. Reid's paper on microscopic examination was made, though Rust was already common at the time.

The second batch of cases occurred in the country at a township about eighteen miles away in the middle of an agricultural district in which there was at the time Rust in the crops.

Due to the distance from Berwick, I was unable to make any investigation as complete as I should have wished, but out of the specimens of spores from different cases, two contained spores as mycelium, in the third I could detect neither, but considering that the spores were probably widely diffused throughout the atmosphere, their presence
they have been partly accidental. It would certainly consider it worth while to examineto try to discover cases in which the relationship are to cause and effect for further consideration.

Hypothetical which was common in New South Wales though not so much as in the British as in many other weight possibly in cases in which the case former ii & living lead to Pneumonia in positive cases.

Stenosis which had been attributed to Pneumonia Pneumonia by a former medical attendant as the cause of one patient, a young woman, originally consulting me, and which under any observation the corte rephased, the contents were expectorated and the patient made a good recovery but had there been a posthumous tumor think it likely the consumption might have been suprained.

In a second case heard of a patient whom had aspirated an expanse which raised angle of the lung died about twelve hour afterwards of consumption of which this has a suspicion when be passed from under my care.
The question as to the kind of climate, originating diseases likely to be found most by the climate of the Australian Sutherland, which, to some of its properties, & which alone would appear to have especially the effect of alleviating bronchial attacks and improving nutrition, leads to the difficulty which must often arise as to choice of climate, when a change has been decided upon.

An equable, humid atmosphere will often relieve cough and bronchial inflammation, but has the disadvantage of being unwholesome and tending to impair appetite and dispose to sedentary habits. In these cases symptoms are apt to be aggravated, especially in the brittle constitution with excessive of nervous irritability as perhaps by a toxic climate...

The general treatment of Allergic Pulmonary has gradually undergone a great change, sedatives having given place to artificial foods and tonics such as cod-liver oil, maltine lactic, hypophosphite etc. and yet as we still continue the generally discarded sedatives in some cases, so also sedative climates continue to have their desirable patients.
Skeptic that few cases that will do well elsewhere exist that would not benefit by an aise in this climate, cases which from their inability to react to its tonic influence, though their symptoms may be temporarily alleviated by a humid sedative breast will generally fail to do well anywhere for any length of time.

With regard to Fitzsimon patients coming to Australia to reside permanently, a change of occupation, if the original one was unprofitable, I think the first step to be insisted upon, as also active assistance of the lungs from both for their disadvantage in such and their coastal situation.

Three cases of Tuberculin to which the patient of the decision has been gradual and the involvement of lung tissues limited in extent will, of course, do best, as raised they would possess the best chance anywhere.

It was at one time strongly insisted on that the presence of much tendency to catarhal bronchial attacks, and especially those cases in which this tendency was associated with bronchietasis and the presence of secreting cavities were most likely to be benefited by a dry climate, such as the off our Island which is dry irritable.
Condition of the Membranous Membrane. It is held to show the destructive influence of a copious respiratory climate, but it must not be overlooked that its bronchial condition is not always to be considered, and it does not necessarily follow that a climate which will suit a particular bronchial condition will necessarily suit a tubercular lung, and medicinal agents in the form of injections or otherwise can often counteract the harmful effects of a climate. The productive of bronchial improvement in many cases, while the general effects of a tonic climate are at the same time obtained.

Enlightenment on the one hand proceeds upon patient's strength by all the means at our disposal, such as the administration of cold localised balsam, stimulants, or, which at the same time renders the lung less in a hot, damp climate, which destroys his cough and strengthens his bronchial thick. It helps his strength and encourages tubercular progress by lowering vitality. Seems illogical to the observer and yet this is continually done.

In cases in which nervous irritability is the prominent feature, the so-called chronic constitution would I think probably do better in the northern part of the island, or Scotland, for instance.
at the town of Knaresborough on the Eastern Downs, near to the South as Bingley, from the low altitudes, greater rainfall, and smaller differences between night and day and sun and shade temperatures, the entire absence of frost and the long length of sunny days in summer. The climate of Knaresborough is all the respects possesses the general characteristics of the more elevated parts of the Nation.

The same observations apply to cases in which there is marked weakness of the circulatory system.

From the rarity of Hæmoptysis that, Delancey concludes that cases of Hæmoptysis are those that are characterized by Dudden and profuse Hæmoptysis to fewer or no physical signs being especially suitable, apart from the helpful nature of such cases under ordinary circumstances.

The Hæmoptysis Phenomenon or acute Pneumonia of Douglas Powell is in which the progress of the particular case would render the operation justifiable, while, I think, the suitable provided sufficient precaution, fever remained after such an intermission of the symptoms as to permit of travelling, and returns
Symptoms was not a prominent feature.

In Friedrick Phthisis of St Aubin Charlebois and P. Blundell Williams is perhaps the type which would derive most special benefit from the peculiarities of the climate than any other.

These cases with marked pleuritic and pneumatic deposits, improve remarkably after a few months resident here.

The Chronic Incipient Phthisis of A. D. and I. C. Williams, i.e. Incipient Incipient Phthisis, marked by unusual moist, with cough and loss of height, in addition to the usual characteristics of the climate the great advantage depended of the suitability for permanent and continuous resident an advantage which it possesses over the high altitude and seaport settlements.

In the climate, in my opinion, exactly suited to these types of Phthisis, putting on one side individual conspiracy and the laboured Phthisis, bronchial Phthisis and cases complicated with the presence of the systemic constitution would probably do better on the Coast, as Rio de New York, Madeira, or Victoria in British Columbia. With such conditions, or after the portion of the Islandand to which there before referred upon
which town is situated, is the north of Queensland.
As would also cases complicated with intestinal
kneezing or catarrh, and from the great heat of
Summer, cases with hepatic or splenic mischief
would be inexcusable.
It was originally my intention, to which I alluded in the earliest pages of this essay, to have appended to it a short remarks on analysis of the results of thirty-six cases of Stethias Palmarisis of which for some years past I have been making observations, and in doing so, I have adopted the classification pursued by Dr. James Williams in his Palmarisis Consumption, but for reasons of professional work have deferred with this intention which would involve a far greater expenditure of time than I had at first supposed, so that I am obliged to content myself with a simple statement of the actual results in thirty-four of my thirty-six cases (for a consideration I have left out two cases occurring in Native of the Island). I regret that the number of my cases is not larger, but are for some of these I am indebted to the kindness of one or two professional friends who have afforded me an opportunity from time to time of examining and making notes of cases under their care.

These cases do not comprise all which I have met with in practice, but only those, viz. Much Improved, and Improved, classes, which I have had under observation either directly or through correspondence with the patients themselves or their Medical Advisers, for a treatment elsewhere, and where history shows followed out for three years from the first examination.
These cases are all important, that is the disease has established before the arrival of the patient upon the island.

These cases I have divided into four classes according to results viz.

1st. Class, or Much Improved, which includes those cases which have become equal to pursuing their ordinary avocations without a recurrence of bad symptoms, and also those in which troublesome symptoms though present to a greater or less extent, do not interfere with the ordinary duties of life. This class contains fourteen out of every thirty-four cases or 50 per cent.

2nd. Class or Somewhat Improved. This class includes cases which have improved to a certain extent, but who though able to lead fairly active and busy lives still have to sacrifice extraordinary precautions. In these cases the patient remains semi-incipient with a tendency to develop troublesome symptoms as a consequence of overexertion or any indiscretions. This class includes six cases or rather more than twenty and a half per cent.

3rd. Class or Unimproved. This includes three.
cases which not only have not improved, but have become worse and complicate two cases, or rather less than one percent.

Of these or those which have died, and nine out of my list of cases or rather less than twenty six percent come under this heading.

The average duration of life among these cases has been about two months and a half.

Two of these cases were women and lived one and the other seven months.

Of the eight males therefore the average was rather more than eleven months.

The numbers are in the table to distinguish the

<table>
<thead>
<tr>
<th>Death numbers</th>
<th>Right hand column of the table</th>
<th>Correspondent to the above</th>
</tr>
</thead>
</table>

The different causes of death are brought out more clearly if the numbers of these causes are added up and the result is to show that the cause of death is:

The heterosperm theory is so complete, so

given in the literature of heterosperm theories in numbers given published by Dr. Proctor.
Table Showing the comparison between the total births and the deaths from sickness in each district of the Colony of New South Wales during the years 1887 and 1888 - with explanatory map.

In the map the divisions into which the Colony is divided for purposes of registration are distinguished from each other by difference of color and are marked with Roman numerals, corresponding to the numbers used in the table to designate the districts.

The small numbers in the right hand columns of the table correspond with those marked upon the map, and are intended to identify the position of the different centers of population apparent which they occur in the table.

The meteorological observations are as complete as given in the Abstract of Meteorological Observations in New South Wales, published by the Government.
<table>
<thead>
<tr>
<th>Location</th>
<th>Distance from Coast (mi)</th>
<th>Height above Sea (ft)</th>
<th>Mean Temperature (°)</th>
<th>Rainfall in Inches</th>
<th>Deaths from Disease</th>
<th>Total of Deaths</th>
<th>Number of Inhabitants</th>
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| Tyne-Bravo   | 287                 | 320              | 62.6            | 16.70    | 4                   | 63              |                |

| Total        |                     |                  |                  |          |                     |                 |                |