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AUSTRALASIA - ESPECIALLY NEW SOUTH WALES -  
AS A HEALTH RESORT FOR BRITISH CONSUMPTIVES.

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THIS THESIS is written for presentation to the Senatus of Glasgow University for the Degree of M.D: by Hugh Corbett Taylor Young, M.B: Ch.M. (1890)

It is entirely his own work, except that the data, from which the Maps have been prepared <sup>and</sup> ~~is~~ the result of the work carried out under the direction of the Government Astronomer for New South Wales. The figures, from which his statistics were calculated, were obtained from the Official Returns of the Acting Government Statistician of the same Colony.

The Writer has visited all the Colonies and has lived in different parts of three of them, viz:- Victoria, Queensland, and New South Wales, particularly the latter, to which for that reason he has chiefly confined his remarks. He has also at various times visited many of the Health resorts of the Riviera, and he, on three occasions, visited Cape Colony, and once Natal. He is thus in a position to write from personal observation.

For purposes of reference he has also added a list of the various Health Resorts in Australia and given descriptions of the more important ones. For much of the information on these points he is indebted to Brucks Medical Directory.

At the last Australasian Medical Congress, which met in Dunedin, New Zealand, Tuberculosis was the special subject for the principal discussion, and during that controversy many, and strong, statements were made, as to the cruelly / injudicious way in which Consumptives were being "dumped down" in the Colonies, without either consideration as to their future location, or thought as to the suitability of any part of the Colonies for the case; and without even the remotest thought of, or hope for, success in <sup>the</sup> its treatment.

That there is reason, as regards the first, though perhaps not so much, as some of the speakers implied, the writer has reason to believe, from a case which came under his observation last year, in which the consultant -- a lung specialist living south of the Tweed -- merely told his patient to go to Australia, and live anywhere beyond 30° South. Whether on the East Coast or the West, whether on the highlands, or the vast plains of the interior, did not seem to be of any consequence, so long as the patient left home, and went further south than 30° Lat:. But, on the other hand, it must not be forgotten that many, indeed the majority of, unsuitable cases arriving in Australia find their way there / on their own responsibility, without consulting the physician, preferring, even against professional advice, to cling, like a drowning

man at a straw, to any forlorn hope which may be thrown out to them, by that vast army of mischief working wiseacres, found in all lands and in every sphere of life, and not infrequently, unfortunately, amongst Clergymen as well as others.

Admitting then a certain amount of truth in both these conditions, a strong desire to place on record some reliable information upon the subject, derived from a personal knowledge of the country, its climate, and its prospects for occupation &c., along with the fact that the writer has a firm belief, founded on experience, in the benefit to be obtained from residence in the country, led him to select this as a theme for his Thesis.

It is quite true that at the time of writing this (April 1897) a deputation of the Medical Profession of Sydney, N.S.W. is memorialising the Government of that Colony, to appoint a Royal Commission for the purpose of "Investigating the cause and growing prevalence of Consumption in the Colony"; but this, the writer believes, is only a result of a resolution carried at the Congress already referred to, and done for the purpose of placing before the world, in a public way, and as it were, with the stamp of authority upon it, the truth about Australasia as a home for Consumptives.

If this were a correct statement with reference to New South Wales, while all over the world there is a diminution in the number of deaths from Tubercular Disease, it were

indeed time the Royal Commission was appointed to prevent any further "dumping down" in such an unhappy land! "All the statistics" says Dr A.K.Chalmers, in a recently published report on "Tubercular Diseases in Glasgow" "All the statistics, which are available, tend to shew that deaths from tuberculous diseases are decreasing". This is true for the country generally.

What are the facts concerning Australasia? Dr G.L. Mullins, of Sydney, in a recent contribution on the subject, says "Phthisis is undoubtedly decreasing throughout the Australasian Colonies" and he gave the following figures:-(B.M.J

COLONY	Rate per 1000 Inhabitants living	
	1885-89	1890-92
VICTORIA	1.46	1.36
QUEENSLAND	1.43	1.16
SOUTH AUSTRALIA	1.08	0.97
NEW SOUTH WALES	1.02	0.90
TASMANIA	0.97	0.90
NEW ZEALAND	0.85	0.81

These figures speak for themselves.

But why should Australasia be considered worthy of ranking as a health resort for Consumptives; what are her claims; what her advantages and inducements, when there are, in its principal

5.

towns, as many deaths per 1000, or nearly so, of the population, as there are in large centres in this and other countries?

"Under certain conditions" says Ransome, in his Milroy Lectures "Phthisis exists and spreads in all parts of the globe, wherever there are communities of human beings - in the east and in the west; in the north and in the south; in high places and in low; in warm and in cold climates. But it by no means follows that certain localities are not better suited for the cure of the disease than others: or, at least, that a change of climate, or even of residence may not be beneficial to the patient!"

The writer fully believes, and hopes to prove, that Australasia is one of those countries, which is not only beneficial, but in many cases such as ultimately leads to cure.

### IS CONSUMPTION CURABLE

But is Consumption under any circumstances, or at any stage, a curable disease? To have written of the cure of Consumption but a few years ago would have been to court being laughed at. If it were not believed now, this paper would not have been attempted.

It might not, indeed, be considered out of place if the views of early writers were here very briefly referred to, not so much with any intention of discussing the curability or otherwise of phthisis -- although unfortunately at the present day not a few practitioners are to be found who take a decidedly gloomy view of the prospect of cure, in this most serious malady -- as for the purpose of enquiring as to the extent to which the

\* Stahl's *Theoria Medica vera* was published  
in 1708. Sydenham died in 1689.



disease has been found to be either amenable to treatment, or capable of being dealt with by the natural forces of the organism.

Medical opinion, during the course of ages, has varied on this point, to a remarkable degree: now taking a hopeful view, again the most doleful.

Sydenham (Syd Socy Vol 2, P 107.) took the brighter view and wrote "deadly as phthisis is, killing two thirds of those who die of chronic diseases, it has a specific in riding, as truly as ague has in bark, or the venereal disease in mercury: provided only that the journeys are long enough, and the beds at night well aired" As bearing upon the above statement it will not be out of place to refer to the well known case in Cannes, at the present time, where a gentleman, carrying out the instructions of his benefactor's will, has to spend six hours of every day in the saddle. By so doing he obtained wealth, and has completely recovered his health, which latter was the desire of the -- in all probability -- unintentional disciple of Sydenham. Another case, (J.MacC) illustrating this form of treatment, is referred to later on, as one in the writer's own experience.

About the same period<sup>X.</sup> as Sydenham, however, we get very different opinions expressed. Stahl wrote "the observation of the public is commonly true, that when consumptives begin to consult medical men, they straightway deliberate as to what things are needful for the funeral".

Later on Heberdem wrote "Remedies of all kinds are

x Who is he?

tried, whatsoever could be thought out by reason or rashness or despair or superstition, nevertheless we shall scarcely succeed in the complete cure of phthisis of the lungs"

Watson (Practice of Physic -2 -201.) and that but fifty years ago, said "tubercular disease, when established, is beyond our power".

Is it to be wondered at that opinions kept getting gloomier and gloomier, as time went on, when one remembers the increasing ravages caused by this national plague, and when, notwithstanding the earnestness of the workers they were blindly ignorant of the cause -- slowly and surely though they were beginning to understand its effects! "This" said Lord Playfair "is the only disease above the horizon from which we may anticipate the extinction of our race".

"This disease" says Hirschberger "kills one fourth of all children dying under one year old": and "is responsible", according to Ransome, "for one half of all deaths during marriageable ages".

Roughly speaking throughout civilized lands it causes about 16 per cent of the total mortality. No age escapes, no land is free.

But since fifty years ago a great change has come over medical opinion. "Many a patient" says Niemeyer (Lectures on Consumption P 65.) gets well, ~~who~~ would formerly have been assumed to be the victim of tubercular, and therefore incurable disease".

"The best authorities" says Dr. Pollock (Elements of Prognosis in Consumption. Page 17.) "lean to the opinion that tubercle is capable of removal by absorption".

"We feel our courage rise" wrote Cruveilhier (Anat: Pathol: du Corps Humain. Fasc. 32.) "in the treatment of pulmonary tubercle, which is too generally considered as marked with the stamp of incurability. During the six years that I have practised at Salpêtrière I have had many opportunities of remarking the many exceptions to this fatalistic doctrine. I have been able to mark the various methods that Nature follows for the reparation of the disorder: and if on the one hand tubercle often belongs to that destructive pathology which shows us by what routes the human body is conducted, rapidly or slowly, but not the less certainly, to death: yet in a very large number of cases, it belongs to that pathology of restoration which notes in what ways the disorder is set right. The diverse modes in which tubercle may be cured is indeed a worthy object of study".

Dr. Harris states (B M J. Dec 21.1889) that he found about 39 per cent of all non-tubercular cases over 20 years of age "presented signs of involuted tubercle".

Dr. Hughes Bennett (Clin. Med. page 737.) was of opinion that such was the case in from one third to one fourth of all individuals dying after the age of forty.

At the Western Infirmary, Glasgow, fully 50% of the P.M's on unsuspected cases reveal old, healed lesions in the lungs.

x This is surely not the right way of putting  
the statement in question, whatever it may have  
been. If the p.m.'s were confined to cases of  
"suspected plotters" — of course they would be  
national lessons. But this cannot be what  
was intended to be said.

MR

It is questionable whether such a statement  
ought to be made on anonymous authority  
& without ample details

But three weeks ago when discussing the curability of phthisis with a fellow student who has, since graduation, devoted his time entirely to Insanity he gave the startling information, far surpassing that of Drs Harris and Hughes Bennett, that during the past six years he had performed over 300 P.Ms: on cases of unsuspected phthisis and in every case had found evidence of former disease in the lungs.

Coming next to figures derived from practice, in cases where the disease was known to exist, such statements as the following are obtained. Dr C.T. Williams (Pulmonary Consumption. P 324.) in his private practice, records the following results, from a series of cases. "A cure was effected in 4.6 per cent of the cases: great improvement in 38 per cent: the disease was stationary in 13.4 per cent, but in 43.5 per cent there was more or less increase".

"Acute Phthisis" says Professor McCall Anderson (Treatment of Pulmonary Consumption) may be recovered from, in a considerable proportion of cases".

And at a later stage in this paper the writer hopes to show that in his experience, Consumption is by no means an incurable disease.

#### THE CAUSES OF CONSUMPTION

Having now demonstrated that Consumption is not only curable, spontaneously, but also by means of treatment, it would be well next to enquire what are the causes of Consumption, meaning thereby not the cause (The Tubercle Bacillus) but rather what are the causes predisposing to a successful

invasion of that Bacillus. Is Consumption in other words dependent upon conditions which may be controlled and if so what are those conditions: and can they be remedied: for it would indeed be unscientific to attempt to influence effects while the cause is still in operation.

"It may be confidently affirmed" says Ransome "Treatment of Phthisis 21.) "without fear of contradiction, from a broad survey of the facts, that wherever plenty of Nature's disinfectants -- pure air, light, a dry and pure soil -- are to be found, there Consumption is rare; but that wherever there are overcrowding, filth, and darkness, it breeds rapidly and carries off large numbers".

Consumption is pre-eminently a disease of debility: everything which tends to lower tone, and impair vitality, may operate as a predisposing cause. Excessive physical or mental work, worry and disappointment, alcoholic or other undue indulgence, deprivation of sunlight, imperfect sanitation, each and all of these may, in certain cases, be operative; and climatic treatment leaves few if any of them unmodified, not even excepting alcoholism which, ~~it~~ is but too well known, is induced by density of population, poverty and filth.

That the disease is largely due to the crowding together of large masses of people, engaging in indoor or sedentary occupations, there are but too abundant proofs. "All districts having a phthisis death rate above the mean have a room density above the mean" is how it is tersely stated, by

Dr A.K.Chalmers, in his recently published report.

The returns regularly published by the Registrar-General prove quite as conclusively that occupation is a point always to be remembered.

Indeed the three most striking facts in connection with the distribution of Consumption are:-

1. The rarity of the disease in sparsely populated places.
2. Amongst those living at high altitudes.
3. and amongst nomadic tribes, in other words, those passing their time almost entirely in the open air.

What then, may be asked, about Cold as a predisposing cause? It is impossible to discuss cold, per se, just as it is impossible to discuss warmth: indeed a passing glance at the mass of statistics, now accessible, upon the distribution of Consumption, shows that the relation of the disease to climate is by no means a simple one. Cold does not produce the disease: warmth is no protection against it: in fact temperature, as such, is without influence.

Equability of temperature was formerly thought to be of vital importance in the climatic environment favourable for cases of Consumption, but this idea must share the fate of many other prejudices on the same subject. It must not be forgotten, however, that combined equability of temperature and hygrometric condition, is of real importance -- though sudden changes of temperature do not necessarily produce Consumption, as is proved by the fact that such fluctuations



are common at high altitudes: and nothing is now more certain than that the dwellers in elevated regions enjoy an unequalled immunity from the ravages of the disease.

It would be equally incorrect to suppose that dampness is one of the main causes in the production of Consumption, and yet this is an almost universally accepted idea. The sea air is laden with moisture, yet seafarers suffer far less from the disease than those who live on shore. The remarkable rarity of Consumption in the Navy as compared with the Army is a fact quite incompatible with the prevalent notion that breathing moist air produces the malady.

While it must be admitted that range and equability of temperature and the amount of relative humidity have individually but slight influence in the causation of Consumption, it would be a serious error to conclude that the disease is not powerfully affected by these factors, collectively, which constitute climate. There is ample evidence to show that the combination of dampness, and variability of temperature, has a marked <sup>influence</sup> tending to its production: just as the opposite conditions, of combined dryness and uniformity of temperature hinder its developement. Again, while a damp atmosphere has no effect in producing Consumption as proved by the relative immunity of seafarers, there is no reason to question the statement that residence upon a damp soil has a notable influence on the genesis of the disease.

What then are the elements, which constitute the climate of a locality, classified as to their suitability to the various conditions found in diseases of the Lungs?

For the purpose of this paper and more as a guide as to what follows the classification, given by Squire (Hygienic Prevention of Consumption) is here given:-

1. Purity of the air and amount of sunshine.
2. Humidity or moisture of the air.
3. Temperature.
4. Movement of air and winds.
5. Elevation or altitude.
6. Nature of the soil,

and, in addition to these natural conditions, attention must be given to the following artificial conditions:-

1. Density of population.
2. Drainage and sanitation.
3. Accommodation and comfort.
4. Means of occupation and recreation.
5. Food and cooking.
6. Means of communication and facilities of approach
7. Medical aid.

#### WHAT DOES CLIMATIC TREATMENT AIM AT?

What on the other hand are the general principles aimed at by Climatic Treatment?

1. Climatic treatment aims at the removal of the patient from those climatic conditions which predispose to bronchial and pulmonary inflammations, and hence indirectly to Consumption.

2. Climatic treatment aims at removing the patient

from a climate which induces an indoor and sedentary life, to one where an outdoor life of healthful activity may be continuously enjoyed, without hindrance from meteorological conditions.

3. Climatic treatment aims at removing the patient from a comparatively sunless and depressing climate which impairs vitality and lowers nutrition, to a sunny and tonic climate where appetite, digestion, and sanguification undergo such augmentation as may enable the patient to shake off or hold at bay the tendency to consumptive disease.

4. Climatic treatment aims, or should aim, at removing the patient from among crowded populations and vitiated air to some region where there is no aggregation of large masses of people, and consequently no pollution of the air of respiration.

5. Climatic treatment aims at removing the patient from the injurious influence of a damp soil and of imperfect sanitation.

6. Climatic treatment aims at giving the patient the great boon of change: change of air, change of diet, change of scenery, change of daily routine, change involving the abandonment of many an injurious habit which has long been the secret minister of disease. It is hard to estimate how much of the immense benefit often derived from climatic treatment finds in this consideration its probable explanation.

CONSUMPTION IN NEW SOUTH WALES.

Before fully embarking on the, purely speaking,

⊕ I doubt if this saying is correct, in any country.  
Consumption is certainly rare in the newly born.  
I do not know the authority given, but  
careful scrutiny is required here.  
MB

climatic review of Australasia, it might not be without interest to refer to one or two striking points in connection with Consumption in the Colonies. The first thing which occurred to the writer was its comparative rarity in the young and frequency in the aged. Not, if applied to Australasia, would the words of Hirschbeyer hold good, when he stated that one fourth of all children dying under one year old succumbed to Consumption. Much nearer the truth would be the remarks of McLauchlan, Colquhoun, and others when commenting upon its frequency amongst the aged. Another noticeable feature is its later and slower affection of the middle aged.

The following figures show the ages at death for the year 1894 (the last obtainable statistics) of those who died from this disease in New South Wales.

DEATHS from PHTHISIS in N S WALES during 1894 with ages

DEATHS from PHTHISIS in N.S.W. during 1894 with ages

Age	Under 1 year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	76	77	84
Number	2	5	2	-	1	1	4	1	2	3	2	-	-	4	2	7	6	8	9	11	25	24	24	26	32	147	183	150	74	80	66	59	44	25	10	1	1	1

The total number of deaths was 1042; Under 20 years of age the total number is 70: between 20 and 30 the number is 278: between 30 and 40 the number is 330; while over 40 years of age the total number is 361. These figures bear out the statements made above.

Another interesting point in connection with these figures is to discover the length of time these 1042 people



resided in Australia. These facts have been obtained and are as under:-

Under 1 year	1 year	2 years	3 years	4 years	5 and under 10	10 under 15	15 under 20	20 and up.	Not Stito.	Born in Australia
10	10	13	18	20	89	100	59	206	23	494

More than one third, nay nearly one half, were native born, and the greater number of the remainder resided over five years in the Colony. To the writer, both these startling statements are, to a great extent, explainable without in any way detracting from the claims of New South Wales in particular and the Colonies in general as suitable for the climatic treatment of Consumption.

It must not be lost sight of that many suffering from the disease have made Australia their home, and in many instances have derived such benefit from the change of climate, and the alteration in their mode of life, that in the course of time they married and had children. Forgetful of their own early troubles: neglectful of those precautions necessary in any climate, these children -- born with a tendency to Consumption -- grow up, to a great extent, uncared for; develop the disease, and so swell the mortality.

The following are two cases in point:-

O.A.aet: 10½ years was brought to the writer on 4th January, 1895, suffering from Acute Phthisis. He died two days afterwards. The parents, both Irish, had emigrated when young. The mother was said to have been "in a decline": the father "was always weakly as a lad" and certainly looked it

as a man. Both were on several occasions examined, subsequent to this boys death, and in neither was there any <sup>active</sup> disease, though the mother bore evidence of past trouble, in the left apex. These people met in Australia, married, and prospered moderately, but paid no attention to the general laws of health. Their house was situated in a deep gully, on swampy ground which was always moist; it was small, low, and with but the faintest attempt at ventilation. Built when their family was small and their means more limited: it was never enlarged. Proof of their carelessness is not wanting when the boys condition before obtaining medical aid is remembered -- yet they "only thought he had a cold".

An interesting point in this family history is the following. A brother of the husband is married to a sister of the other wife. They live in a healthily situated, high and dry part of the same district (North Coast). They are in good circumstances, fully realize the hereditary tendency, and have their family regularly examined. All are healthy and shew neither trace of the disease nor a tendency to it: the sons being sturdy bushmen, and tillers of the soil.

The other case is as follows:-

F.W.M., aet: 26 years, Scotch <sup>S</sup>décent, mother very bad family history, she herself having had haemoptysis repeatedly, as a girl in Scotland. The patient was perfectly well and sturdy until about 15 months before death. A desire for city life led to him accepting an appointment in works connected with the frozen meat industry. Repeated chills began the mischief

which so quickly ended fatally. The other members of the family are well, and shew no evidences of the disease, all of them being wise enough to -- following the advice of a former physician -- engage in outdoor pursuits in the country. It is interesting to note as bearing upon a statement made earlier in this paper as to the effect of mental worry and anxiety, that although for a period of nearly 40 years the mother had enjoyed good health and was in fact cured, the anxiety, worry, and debility resulting from unwearied attendance -- against advice -- upon her son, has led to her reinfection, with rapid progression and she showed every indication, when the writer left the Colony, of soon following her son.

Now, as to those not native born, but resident for a considerable length of time in the Colonies. It will be admitted that, on arrival, the majority, if not all of these, in all probability were either victims of the disease, or had that inherited predisposition to it which sends so many to the New Country. After arrival, the desire to get well, or keep well, as the case may be, is deeply impressed upon them by their new surroundings and their recent banishment from home; and so they locate themselves in parts best suited for their condition.

physical: they regain their health, the climate their <sup>amount of</sup> fair degree of success in the ~~physical~~ world, they regain their health, and probably obtain a <sup>amount of</sup> fair degree of success in the world's good things. They grow



\* not a good word this

careless and sigh for the questionable pleasures of city life with its many temptations: change their abode and alter their way of living: chancing the reappearance of the disease or forgetting such a possibility until it is too late, for let it not be forgotten, that the course of a case of acute phthisis in a hot ~~coastal~~ district is usually very rapid.

Facts like the above, must alas, impress upon every thoughtful person, that growing population with perhaps the usual accompaniment of an increasing struggle for existence, will, undoubtedly, render the Colonies less healthful and more obnoxious to the penalties of civilization. Hirsch, indeed, has attributed the beneficial influences of the Colonies entirely to sparseness of population, and the simple modes of life, and has ignored <sup>their</sup> its climatic peculiarities as being destitute of any special <sup>influence</sup> merit. Even allowing that such was the case, it will not be, for many many years to come, that density of population, or altered modes of life will be such as to take away the virtues attributed to the places by Hirsch: but it will be the writers endeavour to prove that the climate has <sup>much</sup> a lot to do with the benefit derived from a residence in the Colonies.

Bearing upon the influence of town versus country: coast versus interior, the following figures may be of use. Sydney with a population of 422,315 contributed 499 of the total number of deaths, while all the country districts, with a population of 805,095 only contributed 543. The natural conclusion from these figures would be that the disease was

more prevalent on the coast than in the interior; or, more correctly speaking, in Sydney than in the country. There are certainly more deaths, but the writer claims -- while admitting that the interior is much the better climate -- that these figures are greatly misleading: and that for the following reason. With the average Australian, the place makes the man and consequently, when ill, he must consult a city doctor. In that way the Sydney numbers are increased.

#### TUBERCULOSIS AMONGST THE ABORIGINALS

Another cause, as bearing upon the prevalence of Consumption in the Colonies, and one of great interest, is to consider the disease amongst the aboriginals. Apart from alcohol, hydatids, and syphilis, the rapid extinction of the native race is due entirely to tuberculosis; and it is remarkable to note that lung cavitation is the exception, glandular tuberculosis followed by general dissemination the rule. (It is quite the opposite among the white races in Australia)

Two reasons, or causes rather, are at work here

- 1st. Changes in Mode of living
- 2nd. Changes in diet.

In their savage state the natives were hunters; made their camps wherever fancy or convenience dictated; one place for winter, another for summer; one for dry weather, another for wet; and a new camp always after the death of one of the tribe: a few sheets of bark, or, perhaps, and more usually, a few leaves and branches from adjacent trees, turned towards the wind their only protection. Now, thanks to "Homes" and

other Missionary Agencies they live in settlements, in huts (built of bark no doubt) but without window or opening of any kind save the entrance: large enough to, as they think, accommodate families, and usually in some moist spot, without thought as to subsoil or any sanitary arrangements.

But the other and perhaps more striking reason, which the writer has never yet heard stated, has to be assigned <sup>for</sup> to this tubercular decimation of the aboriginals. It is a regrettable fact, that from 30 to 50 per cent of the cows in even selected dairy herds having been found to react to Koch's test for tuberculosis. Herds for butchering purposes are also affected though to a much less degree. This deplorable condition amongst bovines is no doubt owing to:-

1. The extensive importation, in the seventies, of pedigree cows and stud bulls, many of which were afterwards discovered to be tubercular.

2. And owing to the later, most extensive practice of inoculating cattle for pleuro-pneumonia with material obtained from a diseased victim, and this victim being tubercular, tuberculosis has fast been introduced and afterwards disseminated throughout the length and breadth of Eastern Australia.

Now -- and here comes the point -- the aboriginals eat the offal of cattle, and but rarely cook it, contenting themselves with a more or less warming process, depending upon their degree of civilization, before devouring it. What more likely then, than that in this way they swallow that which finding fruitful soil, asserts itself and kills its host. It should

be remembered, too, that these deaths are included in the total number placed to the credit of the colony.

Is it not possible that from diseased meat many of the white victims also get their fatal dose? Australians are, if anything, a beef eating people. Even in the houses of the very poor it is seldom less than three times daily on the table. Joints -- and therefore more likely to be underdone -- are more common. It is at any rate a fact worth taking into account when discussing this question.

It is rather an interesting fact also that the rule of the Colonies is to boil all milk, before using. Does this assist in explaining the rarity of the disease amongst children?

NOTE. On the Stations ( Ranches) the custom is to allow 21 lbs mutton or 16 lbs of beef as the case may be per man per week. This amount is given him along with 10 lbs flour, 2 lbs sugar and  $\frac{1}{4}$  lb tea.

In view of the above statements, surely it is only right to claim that, tuberculosis instead of being common in Australia is much less so than would have been expected. Granted the same conditions, in less salubrious climates, what would the death-rate rise to? Is it not justifiable to attribute some of the credit to the Australian climate?.

GOVERNMENT SUPERVISION OF DAIRIES etc.

It is only right, after the above statements, to mention that the various colonies have awakened to the necessity of strict supervision in all markets, abattoirs,

and dairies throughout the land, and now a well equipped, thoroughly qualified, staff of experts is in the service of the different Governments.

### CLASSIFICATION OF CLIMATES.

All writers on Climatology have attempted to classify them according to their physical features and their effect upon the patient. The purposes of this paper will be served by considering the climates under the following headings:-

1. Marine climates.

2. The climates of high altitudes.

3. The climate of Inland Plains and, although strictly speaking not an Australian climate, but, inasmuch as it is one that must be experienced by the traveller before reaching that part of the world, it is surely not out of place to include,

4. The Oceanic Climate.

Australia is one of the dry and hot regions of the world. The summer heat is, almost everywhere, great, while frost and snow are exceptional, and in many parts unknown - except in certain mountain regions, e.g. at Kiandra, 4,600 feet above sea level, the snow lies for months, and as much as 8 feet have fallen in a single month. Although the rainfall is in some places considerable the intensity of evaporation is such that the atmosphere is remarkably dry. Brilliant sunshine, azure cloudless <sup>is</sup>skys and balmy air, are the leading climatic features of the continent while its most disagreeable

characteristic -- the hot wind -- is confined to certain localities, prevails only in the summer season, and is by no means so common as it is usually thought to be.

There is one interesting fact, always to be remembered, in connection with the health resorts of a cold and a hot climate respectively. In the former the need for a change of locality is usually due to the severity of its winter, and hence those, to whom removal is desirable, find it necessary to leave their country altogether. Thus in England and Northern Europe, on the approach of the cold weather, many are compelled to make a journey to the South of France or elsewhere, in order to escape the rigorous winter at home. And contrariwise, the inhabitants of a torrid country seek relief, from the heat of the plains, in the coolness of elevated localities. A semi-tropical or hot country, therefore, fortunate enough to possess mountains or hills within its own territory has its health resorts at its very doors. So it is that four of the principal Australian Colonies -- Queensland, New South Wales, Victoria, and South Australia -- have, within easy access of their Metropolitan centres, a salubrious climate, which is entirely different from that met with, during the hot months, in the cities lying almost at the sea level.

Such then are the general peculiarities and special advantages of Australia. Geographically it lends itself at once to the classification of climate given above. Its physical features are such that three regions are presented

x Coastal is not English

for consideration.

1. Coastal ~~Region~~ ----- Marine Climate
2. Mountain Region ----- Highland Climate.
3. Interior ----- Climate of Inland Plains.

It will facilitate greatly in this division, if the Highlands of Australia are looked upon as forming one entire system. Beginning in Queensland, they extend down the east and along the south of the Continent -- something in the form of the native war instrument, a boomerang -- until they terminate near the South Australian Territory. The whole chain varies in height in different parts from 1000 to 7000 feet. Kiandra is 4,600 feet: Blackheath 3494 feet: Mount Macedon (i.e. the Township) in the great dividing range of Victoria is nearly 2000 feet, while Mount Kosciusko in the Alps reaches to an elevation of 7,175 feet.

These Highlands vary in their distance from the Coast from 20 miles to 150 or so; and, between them and the sea, to the east, is the ~~coastal~~ or littoral region, in which strip is included the most important and most settled part of Australia. Then, stretching away west beyond these Mountains, for hundreds of miles, is that great Australian Bush, the typical Australia, consisting of undulating downs and rolling prairies, vast treeless plains and heavily timbered scrubs; to be referred to later on as the region of the Inland Plains.



NEW  
SOUTH  
WALES

*Unless*

Until otherwise specified what follows, refers exclusively to New South Wales.

The climate of this Colony is very similar to that of Southern Europe: but as the Colony extends from latitude South  $28^{\circ}$  to  $37^{\circ}$  and owing also to its Mountain districts, variations are experienced, from the cold at Kiandra where the mean minimum temperature is  $21^{\circ}\text{F}$ , to the heat of the inland plains where the thermometer sometimes reaches  $125^{\circ}\text{F}$  in the shade, and is generally from  $100^{\circ}$  to  $116^{\circ}\text{F}$  for the greater part of Summer. The summer temperature of the coast regions is much the same as that of Lisbon and of the Mediterranean Coast, e, g, at Naples, Algiers and Gibraltar: whilst the winter temperature is like that of Sicily or the South of Africa.

The summer heat on the coast is less than in the interior; but to some persons more trying because more moist: whereas in the interior, to the west of the great Dividing Range, it is extremely dry, and, though hot it is not in any way enervating.

In most parts of the Colony the winter mornings and evenings are very cool and a fire is found agreeable, though in many places by no means necessary. The temperature of the Coast districts is beneficially affected by a warm equatorial current setting south

along the coast, furnishing moisture in summer and mitigating the cold of winter.

Speaking broadly the average annual rainfall, east of the Dividing Range, is over 40 inches and the number of rainy days 102: but in the interior, on the western side of the Mountains it is only about 14 inches with 70 rainy days, and sometimes two or three years have passed without rain in some parts, or at least not sufficient to wet the ground. Moreover the evaporation as already mentioned is enormous, in some parts, reaching 12 inches per month for several consecutive months.

The heavy rains come with winds from the eastward and it sometimes happens that there may be floods on the coast while there are droughts inland.

Southerly "bursters" are not uncommon between the months of November and February, and are, unfortunately always attended with clouds of dust.

June, July, and August are the coldest months. December, January, February and March the hottest, but with the exception of these last four months the climate of the Colony is delightful and undoubtedly highly salubrious.

*See above*  
COASTAL  
DISTRICT

A further subdivision of the coastal district, for purposes of comparison and reference would be useful, and the following will answer the purpose.

(1.) CENTRAL:- Including Sydney, its suburbs and immediately surrounding townships, within a radius of

about 15 miles and having an approximate population of 478, 013.

(2) NORTH COAST DISTRICT:- Including the following important centres, vizt:- Ballina, Bellinger, Casino, Grafton, Kempsey, Lismore, Macksville, Maclean, Murwillumbah, Port Macquarie, Taree, and Ulmarra, ranging from 0 to 30 miles from the coast and having a total population of about 68,900.

(3) SOUTH COAST DISTRICT:- including Bega, Berry, Candelo, Eden, Helensburgh, Kiama, Lyttleton, Milton, Moruya, Nowra, Wollongong, and Woonoona: ranging from 0 to 13 miles from the coast the majority under 3, and having a total population of about 52,600.

In approaching the discussion of the coastal districts, as a health resort for consumptives, the writer feels more diffidence than in the treatment of any other portion of his paper. Men, whose reputations give weight to every word they utter, are to be found taking up, to a greater or less degree, both sides of the question. The opinions of outsiders, however, may with every fairness be discounted and those on the spot speak only in favour when comparing with places of repute in the older and more settled countries. Outsiders are liable to base their opinions upon the statistics of the principal cities. No one will, nor could deny that this is the least suited of the three great divisions of the Colony; but, how favourable it is, when compared with the

of what?

which?

for what?



PLACES TAKEN AT RANDOM ALONG THE COAST TO GIVE IDEA OF RAIN FALL  
AND NUMBER OF DAYS DURING WHICH RAIN FELL

STATION	Least distance from Coast	Latitude South	Longitude East	January		February		March		April		May		June		July		August		September		October		November		December		Total rain fall	Total days raining	Greatest fall in one day	Mean Ann. R.fall	Mean Ann. Rainey days	Year for mean.
				Rain fall	days	fall	days	fall	days	fall	days	fall	days	fall	days	fall	days	fall	days	fall	days	fall	days	fall	days	fall	days						
MURWILLUMBAH	10	28.18	153.12	18.22	15	8.85	21	27.13	24	5.17	19	2.27	10	3.01	4	0.06	3	1.12	6	3.28	11	5.82	18	3.22	12	9.46	16	88.06	159	8.43	98.60	161	4
GRAFTON	22	29.43	154.36	6.82	18	6.12	13	12.15	16	2.71	7	1.65	3	1.59	3	0.07	1	0.19	4	1.11	6	8.98	13	1.54	5	1.92	8	44.85	97	4.32	40.05	97	22
Newcastle	1.	32.55	151.50	1.94	14	4.45	18	13.41	22	1.46	17	1.14	14	1.68	9	2.19	10	1.98	14	7.32	23	3.01	11	1.34	6	5.94	17	45.86	175	3.92	49.21	125	23
SYDNEY	5.	33.51	157.13	1.16	19	5.06	18	11.58	25	3.59	15	1.62	13	1.42	10	1.35	7	1.14	10	4.62	22	2.54	$\frac{2}{3}$	0.68	7	3.03	19	33.24	188	3.10	50.56	157	36
EDEN	0	37.0	149.59	3.38	15	1.71	8	8.40	20	3.61	6	0.90	7	6.18	9	0.43	4	0.44	10	3.20	14	0.23	8	0.34	3	0.91	10	30.23	114	2.27	36.93	122	25



x The only antecedent that I can discover in this paragraph to the pronouns, is "coast districts". 29

health resorts of England the Riviera and elsewhere. X

Take its rainfall, and for this purpose five centres along the coast have been selected, extending from the far north to the very south, vizt, Murwillumbah, Grafton, Newcastle, Sydney and Eden. The Table explains itself. Strike average of these figures there is a mean average rainfall of 55.07 inches with a mean average number of days during which rain fell of 132. The total rainfall may seem great, but what of the evaporation? During the past ten years, taking Sydney -- and therefore owing to its Harbour below the average -- results as representing coastal districts the average evaporation has been over 36 inches per annum. Nor must it be forgotten that great though the rainfall is it is not like the drizzling wet so common in England. In Australia when it rains "the windows of heaven" are usually opened; and ceases to give place at once to bright sunshine and blue unclouded skies.

Then as to the winds, these too have nothing to be said against them as is shewn by the following table. It has been admitted that there are what are called "southerly bursters": sudden storms of great severity but short duration, which occasionally visit these shores. But, it may be asked, has not the Riviera got its Mistral, which blows for days together, and yet the Riviera is a famous health resort: have not the health resorts of England got their east and their north east winds which, enter the very souls of people exposed to them, and yet there are some who consider them ideal places for consumptives.

C O A S T A L W I N D S.

<u>WINDS</u>				
MONTH.	Prevailing direction of wind.	Total miles of wind per month.	Average velocity per day.	Greatest velocity in miles per hour.
January	N.E.	7.328	236	30
February	S.E.	5952	220	36
March	N.E.	7022	227	35
April	N.E.	4661	161	69
May	W.S.W.	5419	168	50
June	W.S.W.	5713	190	58
July	N.W.	8.462	273	45
August	S.W.	7.482	241	49
September	N.W.	6906	230	42
October	N.E.	6441	208	54
November	N.E.	6872	229	60
December	N.E.	7842	253	39
Annual		80.100		

Admitting that these storms do break over the Colony at times, they never do so without warning -- usually sufficiently long to enable the invalid to seek some neighbouring shelter -- nor do they ever last for any length of time, usually minutes. Further, are they not in very truth kindly scavengers, sent to clear the atmosphere and leave the locality all the better for their visitations.

It will be observed that the prevailing wind is N.E; and it must be remembered that a N.E; wind south of the Line is a very different wind from one blowing from that quarter in these latitudes. The N.E; is the good wind: South and West the bad ones. Take again the velocities; the greatest in any month is 8462. Compare that with Eastbourne in England, which claims to be a health resort, 10,345. The totals for the year being 80,100 and 94,685 respectively.

A glance at the Map marked (C.D.) will at once give a thorough idea of the temperature and equability of the coastal district; and notwithstanding what several writers have said, it is here maintained that the coastal districts have an equable temperature, though, perhaps, not to such a degree as coastal districts usually have. The peculiar features of the country explain this slight deviation from the general rule, vizt. the long narrow strip of coast land hemmed in between cold sea on the one hand and mountains with hot arid plains on the other. The hot wind from the interior and the cold wind from the Polar seas come in contact on the coast: an atmospheric battle ensues the result being the sudden and violent perturbation referred to as "southerly bursters". But they only take place in summer

and are by no means common, and, taking place in summer, probably the majority of people afraid of them, would be out of Sydney. Sudden changes there are, no doubt, and sometimes a day of stiffling heat may be succeeded by an evening of storm and chill: but it is not common; and where, it may be asked, will any country be found without some drawbacks. There is, in fact, no ideal climate for Consumption "no happy Hygeia to which the Consumptive can repair and draw in healing influences with every breath"

Then as to soil, drainage, and sanitation, what could, where can better, be found than in the north coast districts, where, on the flats, there is a depth of alluvial soil varying from 2 to 20 feet. Damp, impermeable, clay soils are quite exceptional. Volcanic action has been widespread and calcareous, basaltic, granitic, and metamorphic rocks enter largely into the soil formation all of which is favourable to health. What has been said of the north is true also of the central and south coast districts and of the Colony generally and no place could be found better endowed by nature with facilities for good drainage, facilities which have been taken every advantage of by Civic authorities. No artificial draining of farms is required in these parts, even the necessary labour is barely required, and yet there are two crops per year. The importance of all these points needs no comment, and yet how many of the much vaunted European health resorts are notably deficient in these very advantages.

It was laid down as an axiom, in the general principles



of climatic treatment, that it should aim at removing the patient from crowded centres of population and vitiated air, to some region where there is no aggregation of large masses of people, and consequently no pollution of the air of respiration.

Whatever may be the climatic advantages of any place, they are discounted by a dense population, and for that reason rather than for any other neither the capital nor any of the large centres of population are recommended; though even in this respect the custom of the country has an advantage, so far as overcrowding, as referring to the aggregation of buildings is concerned. The usual thing, even among the working population, is to have a little cottage surrounded by its little plot of open ground. In cases where the circumstances of the patient are such as to enable them to live where fancy dictates, these objections do not hold good, as no City has such delightfully situated suburban residences as those which dot the shores of the harbour and the various heights around the City of Sydney; but for the young man or woman who has to work hard and all the year round the writers advice is "go West".

Lindsay states "It must be laid down in the most dogmatic manner that the summer (note he only says Summer) climate of the Australian littoral region is variable and capricious and wholly unsuited to the necessities of the consumptive"

Contrast that with the following words, uttered only two months ago, by Dr Fiaschi of Sydney, one of the leading practitioners of that City. "While admitting the peculiar advantages of some of the inland climates of the Colony I cannot agree with the opinion expressed, that to retain an early case of phthisis in Sydney, was a culpable act. I have frequently kept in Sydney patients who could not secure in the country all the necessary comforts, and have been surprised to see how well they have got on, even when living in such an apparently unsuitable place as George Street"

(NOTE:- A district like Argyle Street, Glasgow)

The same was the experience of Dr Sawkins, Superintendent of the Prince Alfred Hospital in Sydney, as a result of hospital treatment.

People in England are compelled to leave their homes for at least six months of the year, and during that time -- as much at the caprices of fashion, as at the demands for climatic change -- move about from one place to another. Wherever they go, they have the great disadvantages of having as their companions crowds of fellow sufferers, disseminating broadcast the Tubercle Bacilli in addition to the dissipation of the fashionable resorts and the questionable cooking and drainage of many of these Continental towns. On the New South Wales Coast, they can make their home for at least eight months of the year, frequently nine. In no country in the world, is the sky so seldom overcast or the interruptions to the pursuit of business or pleasure so few.

Notwithstanding the admittedly unfavourable circumstances of living in the Metropolis, there must be something in its favour, as the following case will show; more particularly when it is remembered that the patient's calling is classed as being decidedly bad for consumptives.

W,W: aet 27 -- a printer -- no bad family history; brought under notice by a neighbouring practitioner early in 1893, as a very troublesome case of dyspepsia. From boyhood, he had spent much of his spare cash on any, nay every quack nostrum advertised. Examination discovered consolidation of the right apex, and he admitted also that there was a cough. That knowledge, owing to the fact that he was recently married, frightened him greatly. He came under regular observation: and the case seemed as if rapidly going to terminate fatally. High fever, diarrhoea, cavitation and profuse expectoration were all indicative of its rapid progress and serious nature. He ceased work, perforce only, removed his residence to a high and suitable part of Grafton, where he lived, spent almost all his time in the open air, lying in the sun, later on driving; took guaiacol and followed a strict dietary. Towards end of 1894 he had gained nearly two stones in weight. No moist sounds were discoverable, there was no cough, and he felt "quite well", so much so that a tempting offer of employment in Sydney was -- against advice -- accepted, a compromise being effected by his agreeing to live in a selected part of a high suburb. Before the writer left the Colony he had the

pleasure of examining this patient. He is heavier, has had no return of cough, feels quite well, and the dulness is considerably diminished in area; and all this too while living in Sydney and constantly working at his trade. The ultimate result will be watched with interest on the writer's return to the Colony.

But what of the many other, and better situations to be found in the littoral area of New South Wales? So far only two of these have been particularly referred to, vizt: Sydney and Grafton -- the later one, too, of which, is considered one of the most humid parts of the Colony. Look at a few of them, taking them going South.

SINGLETON: 136 feet above sea level: 123 miles north of Sydney, and 40 from the coast: a pretty town of about 8000 inhabitants, in a celebrated vine growing district, mean average rainfall 32.47 inches. Wet days 92. Mean maximum temperature in shade 75° .50 F. Mean minimum 57° F.

PICTON: 549 feet above sea level. 53 Miles south of Sydney: 21 from the Coast: mean annual rainfall 30.35 inches: wet days 106. Mean maximum temperature in shade 71° .9 F: mean minimum 50° .3 F and a place of such good repute as to boast of a Home for Consumptives.

CAMDEN: 41 miles south west of Sydney: 24 from the coast: in the centre of a dairy farming and wine growing district. Rain fall 30.65 inches: wet days 45. A place so much thought of as to have a large convalescent Home which is fed by the Sydney Hospitals.

WOLLONGONG: 67 feet above the sea level: 66 miles south of Sydney. A seaside health resort, at the foot of Mount Kiera, situated in the centre of the deservedly, far-famed Illawarra district, the "Garden of New South Wales": and boasting of a splendid climate. Mean maximum shade temperature  $73^{\circ}.6$  F mean minimum  $55^{\circ}.8$  F: Rainfall 42.41 inches: wet days 89. Not many miles from this spot there is located a Graduate of Glasgow University who, having left this country on account of his lungs is now hard at work and enjoying perfect health.

EDEN: 107 feet above sea level: 283 miles by Steamer south from Sydney. A well named, and deservedly famous seaside health resort. Situated on the slope of, and in the valley formed by two hills, it is well protected from winds, and boasts of a climate suitable for the consumptive all the year round. These are a few of the many places which might be enumerated on the coastal area. All possess every desirable comfort, and provide abundance of sport, and can be recommended for those cases of Phthisis requiring a less stimulating climate than is found on the Highlands and in the Plains of the interior.

### HIGHLANDS

Coming next to the Highlands or middle strip of territory to be considered, there is found a range of Mountains running parallel with the coast and at an average distance of about 30 miles from it. In the North East it is spoken of as the New England Range: South of that the Liverpool Range: next, and west of Sydney as the Blue Mountains.

In addition there are the Coastal Ranges, three in

number, and far west **two** interior ranges vizt: The Grey Range rising to 2000 feet, and the **Barrier** Range rising to an equal height.

It has already been emphasized, in an earlier part of this paper, that this favoured land had "at its very door"-- so to speak -- mountains, to which, those wishing to escape from the heat of the Plains, on the one hand, or the humidity of the coast on the other, might easily go to. For some reason or another but little has been said of this part of the Colony beyond its suitability as a summer station. This, to a large extent, is no doubt due to the fact that residence in Australia, while it may make one anxious to avoid the heat of an extra trying summer, on the other hand makes one equally desirous of living where they do not feel what they consider, the cold of winter. But, of late years, more attention is being given to these parts, as health resorts, and even if they were never considered from any other point of view than that of summer retreats, they are undoubtedly a great boon to the Colony generally and to the Consumptive particularly.

They contain many varieties of climate; are easily accessible, and offer visitors every comfort: so much so that the writer feels convinced that increasing knowledge of the real character of these parts may yet enable them to rank as rivals to such celebrated places as Davos Platz: St.Moritz, and Denver: particularly so with those situated on the western slopes. Then, when it is further considered that they are British, inhabited by fellow countrymen, and possessing all

the comforts, and charms accruing from those facts, with, in addition the consciousness that change of climate may -- if desired -- be obtained without the disadvantage of sea travel, surely they may truly be said to be worthy of consideration.

The following are a few, in different parts, taken from amongst many of which the writer has personal knowledge.

**TENTERFIELD:** 2827 feet above sea level: 475 miles north of Sydney: 80 miles from the coast: Beautifully situated on a plain surrounded by lofty hills, The scenery is magnificent and the climate delightful. Mean average rainfall 34.89 inches Mean annual rainy days 88. Mean maximum shade temperature 75° .3 F . Mean minimum 46° .4 F.

**GLEN INNES:** 3518 feet above sea level: 399 miles North of Sydney: 90 from Coast: Cool climate, pure bracing air. Temperature about same as Tenterfield. Rainfall 36.28. rainy days 95.

**BATHURST:** 2153 feet above sea level. 145 miles by rail West from Sydney. 98 from Coast. The great emporium of the far west. Healthy and vigorating climate, though frequently very cold in winter, still a place of great repute for the summer months, and more especially its outlying parts.

**MOUNT VICTORIA.** 3490 feet above sea level. West of Sydney: 61 miles from coast. Situated in the centre of the most famous sites of the Blue Mountains, and noted, -- even in this country -- for its dry bracing climate and the grandeur of its scenery. It is one of the most favoured summer resorts for invalids, and one to which they go from all parts of the Colony during the hot months. Its mean maximum shade temperature is 62° .7 F:

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its mean minimum  $46^{\circ}.5$  F: Average rainfall 38.9 inches:  
rainy days 99.

KATOOMBA. 3349 feet above sea level: but a short distance  
from the above and with advantages in every way equal.

MOSSVALE. 2205 feet above sea level. 86 miles south of  
Sydney and 31 from the Coast. Mean maximum shade tempera-  
ture  $64^{\circ}.3$  F: Mean minimum  $48^{\circ}.4$  F rainfall 41.05 inches:  
wet days 124. When it is mentioned that, three miles from  
this place at a delightful spot, Sutton Forest, is situated  
the Vice Regal Summer residence, it will be understood that  
the place is one deserving to stand high in the rank of  
summer health resorts.

#### INLAND PLAINS

"Wherever and whenever it is safe and possible to be  
altogether in the open air, there the sufferer from Phthisis  
should be. It is to the possibility of being much in the  
open air, even in the winter, which change of climate often  
affords, that it owes its great value". No better words  
than these could be found, anywhere, with which to begin the  
remarks upon the claims of the Interior of New South Wales  
as a Home for Consumptives.

Whatever doubts the writer might have had in ap-  
proaching the littoral region, owing to the diversity of  
opinion about it, as being suitable: or the mountain regions  
owing, perhaps to an insufficiency of data on which to form  
conclusions, no such doubts, not even the shadows of them,  
are in his mind now, when referring to the Interior, the  
"Bush" of New South Wales. Here, indeed, as far as it is



TABLE TO ILLUSTRATE INLAND RAINFALLS NUMBER OF RAINY DAYS AND ALTITUDES.

STATION	Least distance from Coast	Latitude South	Longitude East	January		February		March		April		May		June		July		August		September		October		November		December		Total rain fall	Total Wet days	Greatest fall in one day	Mean Ann. R.fall	Mean annual Rainy days	Years for mean
				Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet	Rain fall	Days wet						
MOREE	204	29°29	149°53	5.32	8	0.81	5	18.16	16	3.31	6	3.30	3	1.36	9	0.37	2	1.14	3	1.10	3	4.32	9	1.54	3	2.87	6	43.60	73	5.59	25.83	71	15
WARIALDA	162	29°35	150°31	4.06	11	1.75	6	11.89	19	3.37	5	1.71	2	2.61	8	0.62	4	1.03	4	0.73	2	6.33	10	0.92	4	1.30	7	36.32	82	4.02	30.01	95	16
COONAMBLE	237	31.0	148.23	1.75	11	1.31	7	8.48	15	4.50	7	0.87	4	1.32	7	0.18	5	1.24	6	1.23	5	1.51	9	0.78	4	1.99	7	25.16	87	2.30	22.87	61	15
BOURKE	386	30.3	145.48	1.57	4	0.21	2	8.30	11	3.10	9	0.15	1	2.0	4	0.17	3	0.69	4	0.98	3	2.38	8	0.11	2	4.23	7	23.89	58	3.16	16.98	45	23
DUBBO	177	32.18	148.35	2.02	11	2.07	6	6.19	14	3.71	7	1.82	4	2.73	9	1.33	10	1.62	8	1.45	6	2.77	9	0.66	4	3.42	10	29.79	98	1.45	23.61	67	22
WELLINGTON	153	32.35	148.58	3.30	6	0.30	4	3.68	12	2.72	8	1.19	3	1.93	7	2.09	7	1.09	5	2.33	4	2.84	4	1.44	3	4.60	8	27.51	71	1.50	25.14	55	13
YOUNG	140	34.18	148.21	5.40	9	2.06	4	3.38	11	3.98	7	1.05	5	3.13	11	4.52	14	2.24	13	2.66	11	3.37	10	0.84	2	2.92	5	35.50	102	1.71	28.61	90	22
ORANGE	124	33.18	149.9	4.36	10	2.03	4	7.71	16	4.12	6	3.57	6	6.12	13	6.45	15	3.07	12	4.61	11	3.12	8	1.10	5	4.47	12	50.73	118	2.83	39.91	109	23
FORBES	176	33.27	148.5	5.63	11	1.93	3	4.80	12	3.95	6	0.88	4	1.70	9	1.92	12	2.28	12	2.04	8	1.04	6	0.42	3	2.11	8	28.70	94	1.86	22.15	66	19
HAY	309	34.30	144.56	1.96	6	0.46	1	3.58	11	1.79	6	0.68	5	3.09	11	1.32	13	1.87	11	0.78	8	2.29	11	0.22	1	3.84	9	21.88	93	2.30	15.61	65	14

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possible, will be found a climate fulfilling all necessary conditions.

Roughly speaking this vast interior may be referred to as consisting of the following vizt. The Liverpool Plains, in the northern part of the Colony, and covering an area of about 17,000 square miles. The Monaro Plains in the South eastern part forming an undulating plateau over 70 miles in length and averaging about 2000 feet above the sea level: and the vast Riverina Plains in the South western district, the best of these parts and one of the most suitable climates to be found anywhere for the effectual treatment of Consumption, provided always that outdoor occupation is resorted to.

Following the plan adopted when writing of the other divisions, a number of places (all known to the writer) have been taken at random in different parts, as illustrations, and for the purpose of tabulating rainfall and wind velocity results. In addition, the altitude has been given, as a guide to the different districts.

As a result of these figures there is obtained a mean annual rainfall of 25.07 inches, with a mean annual number of days during which rain fell, of 72. It should be added that these figures are based upon calculations going back for fully 20 years.

NOTE. This may seem a contradiction of what has already been given as the mean annual rainfall of the interior: but it will be understood that 25.07 is the mean for the places selected, whereas 14. is the mean for the whole interior.

A L T I T U D E S. (OF INLAND STATIONS)

MOREE	1000 feet	(approximately)
WARIALDA	1106	"
COONAMBLE	850	" (approximately)
DUBBO	863	"
BOURKE	347	"
WELLINGTON	995	"
YOUNG	1416	"
ORANGE	2843	"
FORBES	787	"
HAY	305	"

*see page 41*

A reference to the Maps prepared on the different areas of the whole Colony will give all the information required on that point (see Map A & B.) One must however be struck with its great equability. Much will be said against the great heat, and it is at once admitted, as the result of proved experience, that great heat is to be dreaded by Consumptives as much as, if not more so, than great cold. This fact was strikingly illustrated in the French Army ("Phthisis Galopante" Page 5. Colin) But there are heats and heats, just as there is cold of one kind and cold of another. There is the cold moisture laden atmosphere of such places as Glasgow with its 212 wet days per annum: and there is the cold -- bright dry and clear,-- at Davos. So also there is what might be called a boiling heat in contradistinction to -- putting it in its worst aspect -- the roasting heat experienced in the interior of New South Wales. (see Maps C & D.)

On Christmas day of last year the writer endured a temperature of 108° F in the shade, at a place within a few miles of Coonamble, but, notwithstanding that great heat, he and the other guests, were able to join in sports which would be a considerable task on any one, in any climate; and in no way did he feel, to use a colloquialism "washed out" any more or perhaps even as much as he would have done during a muggy summer's day in this country. The heat of the day was followed by a delightful, balmy evening, and every one was able to enjoy the good things provided for the Christmas dinner.

Sunshine, that great boon for both outdoor and

climatic treatment, might almost be said to become monotonous; and yet, why should it, for such cases as those under consideration, be spoken of as monotonous? What is there that is of such importance? But rarely does the sky show any speck of cloud. Here as in the other divisions of the Colony, when rain is in question it comes down in no unmistakeable manner. Only once in the writers whole Australian experience of about 14 years was he for six consecutive days without a glimpse of sun (February 1881 when the great drought of that period terminated by a fall of fully seven inches of rain).

While on the subject of sunshine; it is most important to emphasize that Australia knows no twilight. Daylight gives place almost immediately to night. And this is a point which is not sufficiently impressed upon invalids, it must never be forgotten. But with all the possible arguments which may by any chance be raised against the interior of New South Wales it must be considered an almost ideal perfection of climate for, (at the very lowest estimate) eight months of every year.

The word drought has just been mentioned so it is but right to state that, until recent years, these droughts were a great draw back. Now, fortunately, that condition is rapidly becoming ancient history. Conservation of water is more than ever thought of; and better still, within the past few years, thanks to a generous Government, Artesian Bores are being established, and with phenominal success, throughout the various parts of the Colony, e.g. Coonamble (over 1,000,000 gallons per day of excellent water) and Moree (nearly 2,000,000

gallons per day);and these are but two of many such.

The resulting water available for drinking purposes is not the only benefit accruing from this supply. Gardening and fruit growing is now assured, with the result, that only money is required to obtain all the good things, in that way, desired by those living in these parts.

Bodily exercise is of all things most essential in the treatment of many cases of Consumption as failing it nutrition languishes and the bodily strength steadily diminishes. This then is a climate allowing of a maximum of healthful outdoor activity and further, sleeping in the open air is not only possible at all seasons, but wholesome and enjoyable. During a period of five years, in the writers younger days, he did not, during all that time, sleep, on an average, two nights per week in bed. Wherever he and his companions found a suitable spot, adjacent to a water hole, there they would throw themselves down on their rug, with, during the winter months a fire of logs at their feet: not even taking the trouble to pitch the tent which was almost invariably carried for wet nights. (It was often left behind with a sort of superstitious hope of tempting the ever welcome rain to come.)

The working man of the interior, the typical bushman, like the lower type the "professional sundowner" passes his life entirely in the open air; and, when "on the track", in search of work, can, without discomfort, walk 40 miles a day.

NOTE. A sundowner is a man who spends his whole time in travelling from one homestead to another, arriving at sundown and asking for a night's food and shelter.

Here as illustrating the nature of the climate it may not be considered out of place to refer to the powers of endurance displayed by the horses of the country. Fifty miles a day is considered nothing out of common; one hundred miles by no means uncommon. The writer has on more than one occasion covered the hundred miles with the one horse within the day, on one occasion doing 97 miles, on a grass fed four year old colt, and returning the same distance on the following day.

NOTE. My last great ride was 123 miles done on one horse so that I might be at a certain place in time to start my journey home to Scotland to begin my career as a Medical Student.

He has known horses do up to 70 miles, at the rate of 10 miles an hour, when they were carrying a messenger for a doctor. Can a climate in which such things are not only possible but common be called enervating? Can a climate where cricketing is carried on almost all the year round and always in the summer time be designated unendurable? The air, no doubt, seems to scorch at times, nay even to burn, but yet there is no sense of profound langour, and not the least indisposition for the pursuit of pleasure. The



THREE PLACES TAKEN TO ILLUSTRATE THE WINDS OF INTERIOR.

MONTH	Prevailing Direction.			Total miles of wind per month.			Average velocity per day.			Greatest velocity in miles per hour.		
	A.	B.	C.	A.	B.	C.	A.	B.	C.	A.	B.	C.
January	N.E.	S.E.	E.	3243	3602	2972	104	116	96	37	17	40
February	S.	E.	S.E.	2789	2915	1685	100	104	60	42	21	24
March	E.	E.	S.E.	2389	2230	3681	77	72	119	27	40	23
April	S.W.	S.W.	S.E.	1004	1514	2038	34	50	68	25	16	20
May	S.	S.W.	N.W.	1408	1330	1868	45	43	60	25	18	18
June	S.W.	N.W.	N.W.	1129	1326	2008	38	44	67	17	16	17
July	W.	W.	N.W.	2210	2105	3441	71	68	111	42	20	36
August	W.	W.	N.W.	2085	2160	3230	67	70	104	15	21	18
September	W.	S.W.	N.W.	1945	2070	3245	65	69	108	36	17	32
October	S.W.	E.	N.E.	2380	2435	2912	77	79	94	46	15	18
November	S.	S.W.	N.W.	2690	2490	2700	90	83	90	28	30	23
December	S.W.	E.	E.	2845	3175	3599	92	102	116	36	20	30.
	S.W.	E.	N.W.	2608	2735							

A - Hay  
 B - Dubbo  
 C - Young

people may growl at the weather and pour maledictions upon the hot winds, but they never think of eschewing labour, and would scorn the suggestion of a mid-day sleep.

Then as to the HOT WINDS which have been mentioned on several occasions. They undoubtedly are the one blot upon the Australian climate, and, in an article such as this, in which an earnest desire exists to place on record those facts with which the writer is personally acquainted, it would, indeed, be wrong to minimise their distressing effect. He has but too vivid recollections of their evil results.

The idea, that the prevalence of wind can have the effect of enormously aggravating heat, is rather a novel one, to those who have been accustomed to associate atmospheric movement with the conceptions of coolness and refreshment. But in Australia, the heat is always tolerable until the hot wind begins to blow, when the glass will rush up perhaps with a jump of 10 F or more. It must however be borne in mind that these days are quite rare, even in the hottest summers, and are quite unknown at other seasons. It is no minimising of evils, when it is stated that frequently seasons pass with only one or two days of such winds, and it would be considered as severe as it is certainly rare if there were a dozen such days during the course of a year. Further, just as in the writers opinion the southerly "burster" of the coastal districts serves the purpose of angels in disguise, so he looks upon the hot winds, with all their discomfort, as healthful to the healthy. They act the parts

of scavenger, imbibing hurtful emanations, draining swamps, and disinfecting the products of decomposition. And when it is remembered that this vast interior is mainly a pastoral country; that the sheep are numbered by millions and the cattle "cover a thousand hills", and that when they die they are left lying, it will be readily understood how useful these fiery blasts are.

As to the winters; there is a little morning frost at times, but the midday is always warm and even the coldest night is never such as to interfere with the comfort and pleasure of camping out.

Much has been written by many authors about the dust of Australia, and that "its general prevalence is a distinct drawback to the Australian climate". Admitted, at once, that there is dust, both on the plains, and at the coast, what of it? It is one of those penalties inseparable from a hot and dry climate. So is the hot wind admitted to be; but just, as it is stated, that the hot wind was by no means a daily occurrence so it is emphatically asserted that the dust storms are by no means common. Much of the interior of Australia is sandy, and so liable to be blown about by every wind that blows. But the majority of the winds are but gentle breezes and so fail to lift these dreadful clouds of dust pictured by hurrying tourists who happen to strike a dust storm. Then to counteract this what of these extensive sand ridges, with their dryporous absorbing qualities and their vast tracts of pine forests to add as one of the

advantages of these districts. Bournemouth can, with pardonable pride, boast of her pine forests; they are as little garden plots, compared with the pine covered country to be found in Central Australia. Another great point about these sandy belts worth mentioning is that usually, at very insignificant depths, excellent drinking water can be obtained, clear as crystal and in the hottest day always refreshingly cool.

So far nothing has been said of the prevailing flora of the country. It is beyond all doubt that the general character of the vegetation has great influence upon the climatic benefits of Australia, for the consumptive. The "everlasting" Gum.

NOTE. SO called from its omnipresence.

The dense Mallee and Bendee scrubs; the delightful and beautiful Myall; the pine already mentioned, all -- with many other varieties -- exhale volatile principles, which possess well known oxidising and disinfecting properties. One never gets away from the smell of eucalyptus--save in the middle of some vast plain. Here in these parts there are no conditions predisposing to bronchial and pulmonary inflammations, which are known to be such predisposing causes to consumption; consequently those with a tendency that way, or with an inherited predisposition to the graver disease, need have no fear of going to these parts, notwithstanding their hot winds, their droughts, and their dust storms, as in all probability, if they do, and lead a life of care and discretion, with

"temperance in all things" they will never know what lung disease is.

And what of population. Here of all places in the world, within the bounds of civilization, one is "far from the madding crowd". Here if anywhere, the patient is removed from amongst crowded communities and consequently from vitiated air. Even in the towns, and so called cities, of the interior, overcrowding is an impossibility. Land is sold, within township areas, by the quarter of an acre. That forms a town allotment, and on that area at least, the humble cottage is built. More frequently the area is doubled and so the houses further apart. And the houses, what shells; built of thin weather boards sawn from the Gum tree which has frequently been allowed no time to dry and shrink they are more often like huge summer houses of lattice work, than like what would be considered a dwelling place in this country. Brick houses are the exception; wooden ones the rule. Then, as one moves further from the townships, it is no uncommon experience, on the parts of settlers, to be 20 or 30 miles away, from their nearest neighbour.

Another point not to be lost sight of is the altitude. The places taken, haphazard, as illustrations are all at a fair height above the sea. (See diagram giving inland rainfall etc., Page 45) HAY with 305 feet is the lowest, and yet HAY is considered "the happy Hygeia" of New South Wales and that too notwithstanding that it gets more than its share of dust storms and high temperatures. These

altitudes, too, may be considered about the average of those prevailing throughout the interior.

The data upon which the foregoing statements, as to temperature, winds and rainfall have been compiled are, as already mentioned, the averages going back for many many years; but it cannot be said whether these conditions will continue. The Seasons to the writer's mind, seem to be changing in many parts of the world, or rather it would seem on studying the matter as if there was a certain regularity of recurrence at long intervals. It is within recollection--without any great tax upon the memory -- when May in these parts was rendered bright by the brighter and lighter costumes donned to suit the weather. "May Day" was rarely such as to forbid the gathering of the "May Dew in the early hours" and most people doubted the truth of the old proverb "Ne'er cast a clout till May be out". But few, alas, now a days doubt the wisdom of our forefathers advice. The Winters on the other hand were more pronounced, and it was the exceptional thing that skaters and those enthusiasts of the "Roaring Game" were unable to gratify their tastes to their hearts content. Now, in these times they both resort to "Palaces" for that purpose. So too it may come that changes will occur in Australia; indeed, though to a more limited degree, they already shew themselves. Very hot summers are not so common as in the days gone by. Winters are more pronounced of late; but this would indeed be a glorious condition of

things. All could do with cooler summers, and the winters might be much more severe, without harm resulting, for though they may be colder there is no indication of their becoming wetter, nor is there any decrease in the blueness of the sky.

"CASES SUITABLE FOR AUSTRALIA"  
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What cases then do well in Australia. What cases do best? If there be any part of this paper worthy of serious consideration it is this, and no part has caused the writer more anxiety, or led to more regrets when he felt his inability to give it the prominence it deserves.

There are cases, many of them, which undoubtedly will ultimately be cured; there are many which will be greatly benefited; but, alas, there are also many which will not only not be improved, but their end will be hastened by attempting to reach Australia: and it seems little short of cruelty to send a doomed consumptive away from home comforts to die at sea, or to lay his bones on a foreign strand. And this statement brings the fourth division of climatic treatment mentioned, to be considered, vizt "The Oceanic Climate" for as then stated, this is an ordeal which must be undertaken by the British Consumptive, in reaching Australia.

On the subject of sea voyages, from a medical point of view, as on many others, opinion unfortunately is divided, as the following extract will shew. "My experience" says Dr. Workman "is that a sea life benefits and hardens those who are only out of condition or suffering from struma, but that for those whose lungs are decidedly



affected—who have tubercular deposits, the risks from taking cold, exhaustion from seasickness or tropical heat, decidedly outweighs any prospect of benefit, and that such would be better by selecting some health resort which they can leave should it not agree with ".

"I have no hesitation in avowing "says Dr. Walshe"—Disease of Lungs 4th Ed. P. 655.— my belief that, if downright bad climates be avoided, a long sea voyage, or a protracted cruise, is a remedial measure of real value. It will especially be likely to prove so if the patient "be fond of the sea". The improvement of appetite, the increased facility of digestion (especially of fat) and hence the increase of weight and of strength, are sometimes as rapid as they are marked. Of course, the early sea-sickness must have passed away before these results are observed; occasionally, when in the neighbourhood of the Line (where the Australian voyage is that taken) the great heat may bring back the perspirations the patient had lost, destroying his appetite, and in all respects throw him back for a while - but only for a while. Not only do I believe with Gilchrist that there is no special danger of haemoptysis, but, as I have several times known, the disposition to constantly recurring haemorrhage may be effectually checked by the combined influences of life afloat. To sum up; a sea voyage more especially in the case of young adult

males, will, I think, occasionally work more effectual change in the phthisical organism than any other single influence or any combination of influences that I am acquainted with. Not only have I seen the local disease stayed, and the damaged lungs attain the maximum of possible repair, but the whole constitution undergoes such remodelling as to render a fresh outbreak of the tuberculisng process an unlikelihood"

These, of Dr. Walshe, are the opinions as well as the experiences of the writer.

It should at the very outset be laid down, with great emphasis, as of first importance, that no patient should be allowed to travel far in whom there is active and progressing <sup>ive</sup> disease. But that statement, even, may be qualified. That is it considered from the, purely, medical standpoint and undoubtedly it is in such cases as these that the exercise of great discrimination and prudence is called for; but while it has just, a moment ago, been stated how cruel it is to send a doomed person away, there is another and very important aspect of the case. Allowing they are doomed, is it not a privilege as well as a duty to agree - nay to recommend - anything that will render the doomed ones few remaining days as cheerful and bright as possible. "Take me back to Davos" pleaded a person of the writer's acquaintance, "for I feel, I know, I shall die more easily there, happier and brighter, than here in

London, where I feel as if I were being suffocated:" They took her to Davos, journeying by a special train, and she died a few days after her arrival. The sadness and misery, of the last few days of life, are often greatly mitigated by removal from surroundings, which in every way remind them of their long illness. They cannot, these poor sufferers, say like the shepherd in "Noctes Ambrosianae" when speaking of the weather that "The warst had aye some redeemin' quality aboot it that enabled me to thole it withoot yaumerin. Though we may na be able to see we can aye think o' the clear blue lift".

Their faith may be great but it does not reach such heights as this, and they yearn with their whole hearts to "see the sun rise" but once again before the dawn of the brighter day.

But these remarks can only be applied to those whose worldly circumstances will allow of their going anywhere, and cannot, on any account, be referred to that greater and sadder number who have so frequently to beg or borrow the wherewithall to enable them to get away.

As a rule the following are benefited by a sea voyage:-

1. Those who are predisposed to phthisis.
2. The scrofulous.
3. Those in the early stage of phthisis with consolidation of the Lung around the tubercle.
4. Those in whom the disease is quiescent.
5. The subjects of frequent small haemorrhages.
6. Those with slight lung mischief, with irritable cough, but with little or no fever.
7. The anaemic or those with defective appetite.

On the other hand the following may be considered unsuited for the sea voyage.

1. Those who are very weak.
2. Those who suffer very much from mal de mer.
3. The subjects of severe haemoptysis.
4. Those with advanced and still active disease.
5. The subjects of other organic diseases especially those with serious hepatic or intestinal troubles, in addition to phthisis.

Speaking broadly, in a general way, it is found that those cases which do well, and benefit most by the long voyage, are exactly the ones which are either cured, or at least greatly benefited, by a sojourn in New South Wales. Further, and it is a point to be remembered in the recommending of this country this healing process has been started during the ocean trip. During those long hours

and days of calm and inactivity, nature is busily at work repairing the waste of years of toil or the ravages of tedious disease. Unseen hands are silently engaged in building up again the broken cells; unseen fingers are busily rearranging the disordered machinery of life, and in order to the better doing of this let it be understood that the long route, that round the Cape of Good Hope is the one to be recommended.

That there are some people, who, undoubtedly, suffer so severely from sea sickness as to render it unwise to recommend a trip to Australia, is quite true, but they are fewer than is generally supposed. The statement made by the patient that he or she, as the case may be, is a bad sailor, counts for nothing, as their experience has usually been obtained in the bad smelling, little coasters, plying around the different parts of the British Islands. They would render any old shell back anything but happy. Frequently those who suffer so in coasters are in no way upset in an ocean going vessel. But this difficulty even may largely be overcome, by foregoing the Cape Route, journeying overland to the Mediterranean, and then joining one of the Liners by the Canal Route, taking care to select the cool season for the passage through the Red Sea. It is very rarely indeed that sea sickness troubles any one by this route.

Q. What is that?

There is one class of patient which has never, so far as the writer knows, been considered, in this respect, and which the writer's experience, as a Ship's Surgeon, has ever made him pity. A phthisical lady, enciente, and suffering from morning sickness should not be started on a sea voyage. Temporize by change of climate, nearer home, until the vomiting passes away; then let the journey be commenced.

Before leaving this subject it should not be forgotten that, as a rule, consumptives suffer less than healthy people from the "terrors of the sea".

It would be out of place in this paper to discuss at length the ocean voyage as a therapeutic agent. It is dealt with in many books by able writers. What is aimed at here is to dispel the so called "terrors of the Ocean" which, it is to be feared, are too often exaggerated.

It is pretty much like the "Hot Winds" of Australia. So far from being constantly "tempest tossed" the Ocean's more usual mood is one of placidity and calm. The patient can remain on deck the entire day, without fear of chill, alternately reclining on the comfortable deck chair or leisurely enjoying a promenade. The balmy sea breeze soon acts as an excellent sedative to the hacking cough. "the"out"door" life increases the appetite and strengthens the digestive powers - these beneficial changes being assisted in no small measure by the bright

health giving rays of the sun.

These brightening prospects are liable to tempt the patient to become careless, but it must be remembered - and it is the duty of the home physician to warn - that great caution, bordering at times on self denial, must be practised, not only with regard to food and exercise, but also as to clothing. They must not eat too much, and they must regulate what they eat according to the latitudes in which they are; they must always indulge in exercise suitable to their condition, and they must be prepared with clothing suitable for the various stages of the voyage, more particularly for the cold frequently experienced when the run south is made, before beginning the Easting. At all times, be it the heat of the tropics or the cold "down south" they must have wool next the skin. In this they frequently err near the **Line**.

Notwithstanding what Dr. Workman has said, the writer's experience - and he has made fourteen long voyages - is that chills and inflammatory attacks are comparatively rare, except as the result of palpable indiscretions. This statement recalls a patient - a well known literary man-who was a passenger during a recent voyage. This gentleman has spent the past seven winters - Home winters - in voyaging and touring through inland Australia, owing to his having had frequent and severe haemoptysis. Not once during those seven periods of voyaging had he an

attack of **haemoptysis**, until this trip, and it followed on a week's celebrating of the Burns Anniversary, culminating in a desire to appear one night "in the garb of old Gaul". the night selected, unfortunately, being a very wet one.

It is well to repeat that it is a mistake to forego all exercise: it is wrong to yield to the temptation of over indulgence at table. Dyspepsia follows and the voyage is blamed. Caution the patient upon starting. Forewarned is forearmed and it is better and easier to keep well than to make well.

The time of the year in which to undertake the sea voyage is of much moment, the object which has to be borne in mind being to enable the patient to arrive at his port of debarkation during a suitable season. It is most unfortunate that invalids, as a rule, arrive in Australia during the Summer. This, no doubt, is owing to their desire to leave behind, to escape from, the winter in Britain at any cost without giving sufficient thought as to the time of their arrival.

If time and circumstances of arrival were alone to be regarded, probably towards the end of March would be the best period at which to commence residence in New South Wales. It is the most charming season of the year. The heat of summer has given place to a bright and genial atmosphere and the parched lands are again



"with verdure clad". But unfortunately, for the carrying out of this programme, it would be necessary to delay departure from England until December, January, or February according as sail or steam were to be the mode of progression, and that would incur the risks of residing at home beyond what might be called "the period of safety". Should the circumstances of the patient permit, he might be advised to spend the early winter months at San Remo or Cannes, and then when the time came make towards a port of embarkation for Teneriffe, if he intended going by steam and by the Cape as recommended, or he might go by one of the many regular "Liners" via "The Canal".

Another equally good, though probably less popular plan - as it deprives of the home summer would be to leave here about June or July and arrive in Sydney during the delightfully fresh spring weather. In this way the "New Chum" will have sufficient time to learn his way about, and to make his arrangements before the advent of the Summer. This period of landing is here strongly emphasized, because, the writer considers it extremely injudicious to allow the invalid to arrive in these coastal towns, for the first time - and immediately after a voyage-during the summer months. This heat, for the first time, is much more trying than it would be later on, and there is just a risk of diarrhoea, a danger that <sup>not</sup> must be courted.

It is by no means an uncommon experience to find cases of active, far advanced disease, which pick up most wonderfully during the voyage and then unfortunately suddenly collapse, so to speak, and die shortly after its termination. Cases like this have frequently greatly disheartened the writer and led to his enquiring as to why to should be so. It would seem that these people are frequently so elated at their improvement, that they take the first opportunity presented of entering into enjoyments and pleasures for long denied them. They remain in the Capitals instead of getting right away into some spot in the interior, selected to suit their individual case. Life on board ship conduces to early hours and plenty of rest; but in the City, theatres, and at times other inducements lure them out, chills follow, and so the end is hastened. They forget that while night air and draughts are comparatively innocuous on the equable climate of the Ocean, they are fraught with grave peril while on land.

Sufficient attention is not given to the "housing" of patients at sea. It is best to avoid fashionable ships, just as it is well to avoid fashionable health resorts. The "pace" on board is too great. More frequently in so called "tramps" is suitable accommodation to be found (provided the stewards department is all right) for in these "off Liners" the cabins are larger, and more frequently they are all situated on the main deck, as deck houses. This is a great advantage, and one that should

always be tried for. Then again the passengers are usually fewer and so there is less crowding together and more privacy. These advantages speak for themselves.

Two other things should always be done before the patient leaves the country.

I. A full report of his case should be written out and either given to him or forwarded direct to some physician in the Colony should the consultant here be familiar with any of them. This latter course is to be preferred and for this reason. It is well known that many ships officers have friends in the profession, frequently what might be called kindred spirits, who devote more time to visiting arriving steamers than to the study of their profession, in addition to the fact that it will prevent the patient knowing too much as to the gravity of his case. By so doing the local man will be able to judge as to improvement or otherwise during the voyage, and also will be able to direct to which part of the Colony that particular case should go. For that reason, whether he bears the report or no, he should be told to consult a local man at once.

What cases then do best in Australia? They have been already enumerated, for exactly those cases which do well with the ocean voyage are the ones to whom hope may be held out, nay, to whom, provided they follow the instructions given, live in a suitable

What?

not clear

locality and follow what might be called an out door life, every chance of recovery may be assured. But let it be understood, clearly and unmistakably, that mere change of climate is not of itself sufficient to bring about a cure, It is a means and a powerful one, but only one among many. Along with it various other precautions should be adopted and other remedies used.

In proof, or rather as justifying the stress laid upon the out door life as being essential, the writer regrets, that he is in a position to know, that even in the best parts of New South Wales religious communities are largely hotbeds of Phthisis. It will be easily understood why he does not enter into particulars as regarding these. They might indeed be aptly called Consumptive Homes.

Many circumstances must be considered in the recommending of climatic treatment to any case of Phthisis. It must be the experience of every physician, devoting attention to this subject, to find cases which, so far as physical examination goes, would seem to be the very ones in which a good result would be expected; and yet, owing to some one thing noticed by the medical man it may be the family history, (on this the writer lays but little weight) the rapidity of invasion, often ~~an~~ unexplainable something about the physiognomy of the patient, makes him give a guarded, and at times, a grave

*Does this mean more action & more energy? it is certainly not clear as it stands, & should be further explained if used at all as an argument. MM*

prognosis.

For that and other reasons which must suggest themselves it is not wise to recommend Australia at the first consultation.

There is another way in which to consider suitability as applied to Australia, namely, the circumstances and the sex of the patient: and here Australia stands high above any other place laying claim to be a health resort. The rich may, or rather can, go anywhere. They to a large extent make or mar the reputations of many places now or at one time in high repute. They may go to Australia, but the poor may also go. Population is still wanted in that far off land. New South Wales has a population density of about four to the square mile. It is usually- notwithstanding the outcry made by paid labour agitators- a man's own fault- and a woman's too- if he or she, as the case may be, has not got a pound note in their possession. True, the invalid would be handicapped to a greater or lesser degree, depending on the extent of his debility and the fastidiousness of his tastes: but if he be prepared to take what comes: acquiesce in the life and suit himself to the habits of the country, he will have no cause to regret his choice. For that numerous class of well educated youths who so frequently break down under the pressure of competition, the position of tutor offers on some Station in the

interior- just the very life for such as he. The school hours are, to all intents, spent in the open air, as most frequently the "School Room" is on the verandah. Then the rest of the day may be passed in the fields or on horseback. The six weeks of holidays during the hot months enable him, if he so desires, to get away to one of the many mountain stations. So again for the other sex the position of governess is frequently obtainable.

For both sexes, if sufficiently educated, more humble positions are constantly awaiting, if they are only willing to accept, and if they remember that the "Golden Age" is long passed away.

Surely wage is of secondary importance, where a home, and the prospect of renewed health are in question. The home can easily be obtained: and in all probability the latter.

Coming next to the personal experience of the writer, obtained during six years work in the Grafton (North Coast) district. He finds that during that period 209 Death Certificates were signed from all causes: eleven were cases of Phthisis: and briefly the following are the facts concerning them: four were native born, two having been already mentioned- O, A, and F W M. Of the other natives one M G aet 30 was a nurse, who simply killed herself for others; began work too soon after an attack of Enteric, came home to Grafton and died of acute Phthisis.

The fourth E.A. aet 34 was only seen shortly before death, had according to history been ill for many years, was very poor and had a large young family: had been treated for years for "Cardiac Asthma (!) by a practitioner (!) who assured her her lungs were all right. She was dying of laryngeal phthisis when seen. Of the other seven victims, one a Dane aet 53, died suddenly of aortic disease and the lung condition-active disease-was found P.M. Another, aet 54-Scotch-had gone out to Australia many years before for her health. The disease remained stationary; but six years before her death, she began some cold bath cure for Phthisis, on her own account. This she continued until just before death when she developed pneumonia, which ended fatally.

Three of the others were Irish and members of the same family, mother and sons. They were all ill on arrival in the district - to a farm where the father and husband had preceded them, and died within a year of one another. Their house was situated on a small flat surrounded by high hills, damp, away from sun and indeed in about as bad a situation as could well have been selected.

The remaining case, aet 29, also Irish, had emigrated for her health, improved greatly, got married and spent her married life in almost annual child bearing.

Altogether about 45 cases of Phthisis came under observation; but many of these were only seen once, and during the last three years, when they came or were sent

from other districts for examination: and it was difficult, nay indeed impossible to keep in touch with these cases, as promises made, were apparently forgotten, and so no further information obtained. But for a strong objection on the part of the writer to put such cases in his Wards at the Hospital it might have been possible to give more numerous reports. Only for pressing or special reasons did he admit such cases.

But the following cases, of which records were kept, are worth recording as proof of the effect of climatic treatment, along with antiseptic treatment (sometimes creasote, sometimes guaiacol) and such things as Hypophosphates and Cod Oil &c. Some of them are undoubtedly cures, some improvement so great as to be almost incredible.

A, E, T, aet 32-English - strong maternal history of Phthisis: had left apical trouble, (consolidation) 12 years ago, having a younger brother also consumptive, and with more advanced disease - they both emigrated. The elder was a draughtsman and on arrival obtained admission to Government service: was appointed to a Surveyor's Staff in the Moree District (See Table) serving two years "in the field" living in tents. He was then transferred to the Moree Office and six years ago was promoted to the Grafton Office, where he came under observation, not as a patient but on account of his athletic reputation. After doing a spin on his bicycle



he has a plunge into the river every morning, all the year round: every evening, after his business is over for the day he is to be found on the River in his Outrigger. An attack of Influenza led to an examination of his Lungs and the discovery of former mischief. He then related his history. That young man is considered one of the healthiest as he is certainly one of the best developed on the river and he himself is ever boasting of Australia.

His brother's history though sad is instructive as apparently one of reinfection. (I never saw this case, but got the account from A,E,T,). He was an Architect. His early Colonial life led to such a condition of health as to justify the belief that he also was cured, even though he lived in Sydney. Increased work, following on success professionally, led to very close application, which culminated in a break down and death last year.

Case 2. J,L: aet 26-School Teacher - a very distinguished Graduate of Sydney University - Native of that place - Good family history - **Was** studying very hard for highest certificate obtainable in his profession and teaching during day. This was five years ago. Severe haemoptysis led to his consulting-examination found the right lung affected. These hemorrhages continued at irregular intervals, in diminishing quantity for about five weeks. Whenever able he was sent away and obtained leave of absence for three

months. He went home to Sydney and passed to the care of a Physician there to whom a report of his case had been sent. At the end of the three months - the writer having meantime become a member of the Education Board of the Colony - a School was obtained for him at a place called **Quirindi** on the Liverpool Plains, just the the western side of the Mountains. This place was selected because the work would be much easier and the climate more bracing than that of the North Coast District. He promised to be periodically examined, so a report of his case was sent to the local doctor. Regularly every three months, up till the writer left the Colony reports came. He is quite well - cured, his Doctor puts it - He has been married **three** years and quite recently a travelling Doctor for an American Life Office passed him as a "First Class Risk".

### CASE 3.

This is indeed a wonderful case of improvement, one dare hardly hope for cure. The man - 37 - had been wardsman and mortuary man in one of the large Hospitals of the Colony for many years. He developed Phthisis (it was thought to be Gangrene of the Right Lung) and was sent on to Grafton with a request for the writer to admit him to the Hospital. It was a sickening case. But after nine months passed as much as possible lying on the broad verandah of the Hospital (during which time he was treated

alternately by the Hypodermic use of Guaiacol and the external painting of it with the carbonate to swallow) he improved sufficiently to justify outdoor treatment. He was advised to go West, and try Station life as a shepherd. About 18, months ago he presented himself and the writer failed to recognise him. He was fat strong and felt well. The improvement was marvellous: the cavity diminished greatly, there was but little expectoration (still bacilli to be found) and he has a healthy look. Delighted with himself and full of gratitude he went back to his sheep and his tent.

#### CASE. 4.

J. M.C. aet 23.. Clerk in a Produce Store. A native of the North Coast District: was sent on from Sydney where he had suffered from repeated small haemorrhages. He gave the following history. About a year previously he had an exceptionally severe attack of Enteric. Convalescence was slow and unsatisfactory. He developed R Pleurisy and sometimes afterwards had haemoptysis. On examination the R. Supra Scapular and supra and infra clavicular regions were found involved. After correspondence with his employer, who is M.P. for the District, it was arranged that he would act as Country and Travelling Agent for the firm. His work was thus such that he practically lived in the saddle, going about from farm to farm throughout the district.

After a year of such work, he returned - he having during that time taken Cod Oil and Carbonate of Guaiacum - there had been no further haemoptysis, the Lung was practically cured - so far as such conditions, where defects are left, can be called cured. He had gained 13 lbs in weight: felt strong and said he was his old self again.

CASE 5.

J.W. aet 32. English. By chance met and consulted the writer about six years ago. He was a new arrival: had been a School Teacher and had contracted Phthisis. A sister had also died of the disease, but there was no other history of the complaint in the family. Examination discovered the right Lung to have a small clearly circumscribed cavity in the apex. An appointment - fortunately vacant - as tutor was obtained for him on a Station belonging to a relative of the writer's, and full particulars given as to mode of life &c. He was not again seen-though regularly heard of - until, as one of the guests at the Christmas Gathering already mentioned, fat strong and hearty, he as lively as any at the sports, held his own against other competitors. He has had no cough for fully three years. Stated he had felt perfectly well during that period. The Lung was quite free from moist sounds. He is an excellent tenor singer and again is able to charm his auditors

by his well trained voice without any apparent effort. This the writer considers a most satisfactory case. Before leaving this portion of the subject, there is one most interesting disease to which the writer desires to draw attention, especially as he believes that in former years to a great extent and even at the present day, by a few practitioners, it has been mistaken for Phthisis. He refers to Hydatids, where it affects the Lung. There is no excuse for such mistakes where the observer, in addition to knowing the conditions existing in the two diseases is familiar with the use of a microscope. There are no Tubercle Bacilli in Hydatids: there are no hooklets or other evidences of the parasite or its cyst wall in cases of Phthisis. But as he has known of such mistakes he thought it would not be devoid of interest to refer to the fact.

Purposely only what is considered the most suitable class of cases has been referred to. Many other types will suggest themselves provided the question of the sea voyage has been settled and also the object aimed at be clearly understood, vizt, cure or palliation. In the warm dry parts of the Colony it is found older patients do well, also as has been illustrated, cases with large secreting cavities: All chronic cases free from fever: those having catarrhal tendencies and with a predisposition to recurrence of pneumonia or broncho-pneumonia.

In the same way the question of warm climate with moisture. that is those of a more sedative character and those colder and at higher altitudes are all available for selection and consideration. The writer pins his faith with greatest hope to the warm dry climate.

It may not be inappropriate to glance briefly at the attractions which it can offer in the way of scenery, hotel accommodation, and facilities for travel and such other points as, although less vitally important than climate, nevertheless seriously affect the comfort and happiness, and therefore the health of the invalid.

As to scenery. Perhaps in this respect New South Wales is far behind other countries, although she is, with the exception of New Zealand, the only Colony possessing any natural attractions. The beauties of the Blue Mountains the Jenolan Caves and the flowery slopes of the Illawarra are world famous. Beyond these, to the majority, there would be nothing striking; but surely the very vastness of the interior the miles upon miles of agricultural land waving in wheat, the broad expanse of sugar cane and maize, with their bright tints of green while yet unripe: The acres of vines, and of Pine Apples and the great orchards found in the fruit growing districts are surely not devoid of interest nor without beauty. Then the illimitable expanse of rolling downs and scrub lands where wander the countless flocks and herds of

these lords of Australian wealth - the pastoralists: the bright plumaged birds, the odd looking and silent marsupials, the fleetfooted emus, all these have their novelty and attraction for the visitor.

But, with them all, it cannot be denied that the greater and best known parts of the Australian bush, are ugly, as ugly and uninviting as are the remaining wrecks of her native population.

The facilities for travel are yearly improving, already they are by no means bad. Railways - which are wisely Government concerns - are being pushed ahead as fast as the funds of the country will allow. A new policy for the construction of light railways is now occupying the consideration of the Commissioners. But where Railways do not penetrate coaches and conveyances, enabling the person to travel by easy stages, are obtainable all over the country. It is by no means necessary, if travelling, to make a Township every night. The custom of the land is to make every traveller welcome, for a night and even more. The writer would not be afraid of travelling throughout the length and breadth of the Colonies without a coin in his pocket, and yet faring well wherever he went.

Hotel accommodation is plentiful everywhere but-apart from the Capital towns-speaking generally they are more celebrated for their substantial than for

their choice dietary. Cleanliness and bedroom accommodation will but rarely be found wanting.

Sport all over the country, for those able to indulge, is abundant.

Another point of great moment is that now, as in the older countries there are but few corners to which the medico has not penetrated. Thus when medical aid is required it can always be obtained.

As to location. Every case must be considered on its merits. The absolute or relative purity of the air is without doubt the condition of chief importance; compared with which questions of small differences of humidity or of temperature are of far less concern. But let it be clearly understood that the large cities are to be avoided, shunned by the new arrivals; the coast from the North down to Sydney to be kept away from during the summer months. The Mountain districts, at first, are only to be considered as places to which the patient may go during the summer months; the interior the place of all places - for the person seeking and anxious for a restoration to health. Anywhere, everywhere, bad use may be made of a good climate, or good use of a bad one.

In conclusion, the writer would indeed be devoid of gratitude if he failed to pay a personal tribute to the boundless hospitality of the colonists. The Country may be devoid of natural beauties; it may



cause the traveller to think with sinking heart of the land he has left behind; but from the moment of landing in Australia he is amongst friends; people of his own blood and tongue, who will treat him with unbounded hospitality, true sympathy, genuine friendship, and real affection. There was a time when the writer and hoped to find his life's work in the study of those processes called Pathological and to that end had accepted an appointment in one of the large Hospitals of New York. Acting however on the strongly worded advice of several of his respected former teachers he sacrificed those hopes and returned to Australia. Hard work as a general practitioner, and that too in the North Coast District has not prevented complete restoration to health. Feeling and knowing what it has done not only for himself but for many who have come under his notice compelled him to write - he fears imperfectly and unscientifically - these pages in the hope that <sup>they</sup> it may be the means of directing the attention of those who have the training and moulding of the minds of so many future practitioners, to not only the class of patients suited for New South Wales but also to place on record those parts of the Colony which are sure to give the best results to the patient.

Before referring to the remaining Colonies individually, it would be well to mention, briefly, wherein they differ, and suffer by comparison with New South Wales.

In Queensland it may be taken for granted that the littoral region is worse: nearer to, and partly in the tropics, and more humid, in its character, the heat is more trying, and in addition there is more swampy land, and, going North, many distinctly malarial areas. Altogether its Northern, Eastern and Northwestern territory may be disregarded: but that there are some parts of undoubted high repute will be shown later on.

Victoria, on its coast, might, to many, appear better than New South Wales, being more temperate and perhaps a little less enervating. But on the other hand, it is more variable, there are more winds and severer dust storms. Its interior may, speaking generally, be considered as like that of New South Wales. Indeed there are some places of high repute for early cases of Phthisis, as per the list given further on.

The same statement holds good of South Australia.

Western Australia, being still what might be called, unsettled may be disregarded.

QUEENSLAND.

Mean atmospheric Conditions for the year as a whole  
of the following places with height above Sea Level  
and least distance from the Coast.

	Brisbane	Tambourine	Toowoomba	Warwick	Stanthorpe	Dalby	Roma	Charleville.
Temperature	68.3°F	63.3°	64.7°	61.6°	59.7°	64.7°	68.6°	70.2°
Mean Range of Temperature	23.3°	17.0°	23.9°	28.4°	24.8°	27.6°	29.9°	27.6°
Absolute Range of Temperature	41.5°	35.6°	45.5°	50.8°	48.3°	48.0°	51.4°	48.7°
Relative Humidity	68%	71%	73%	70%	65%	57%	62%	51%
Number of Wet days per month	7	8	7	5	7	4	5	4
Height in feet above sea level	137	2000.	1921	1485	2656	1123	978	966
Least distance from Coast	10	16	71	85	97	110	247	351

QUEENSLAND.

The following places are taken as representing the best parts in that colony:

South Western Queensland.

Charleville, Roma, and Dalby.

Darling Downs (High altitude).

Stantherpe, Warwick and Toowoomba.

## South Eastern (Sea Board)

Brisbane and Tambourine.

In these parts it is well to consider the year as comprising two periods: one period embracing the seven months from October to April (inclusive), and the other period embracing the five months from May to September (inclusive). The first period of seven months represents the hotter months, the second period the five cooler months.

Based upon these and other available data.

Dr. D. Hardie of Brisbane drew the following conclusions.

1.- That while in Southern Queensland the conditions are highly favourable for the treatment of phthisis in its early stage, the conditions in any particular locality are not equally favourable all the year round.

11. That on account of the large amount of sunshine, and exceedingly low relative humidity of the three

stations, Dalby, Roma, and Charleville, in South-Western Queensland, the eastern part of this high tableland is admirably suited for the treatment of phthisis during the hot months of the year, from October to April (inclusive). Of these three stations, Charleville has the distinct advantage in dryness of atmosphere and large amount of sunshine, but I presume its very high mean temperature will stand against it as a sanatorium for consumptives during this period of the year. Of the remaining two stations - Dalby and Roma - the former has the following advantages:- Greater altitude, closer proximity to centre of population, and, above all, lower mean temperature, lower range of temperature, and lower relative humidity.

III.- That on account of very high range of temperature and somewhat higher relative humidity, these stations are not so suitable for the treatment of phthisis during the cooler months of the year, from May to September (inclusive).

IV. That of the three high altitude stations - Stanthorpe, Warwick, and Toowoomba - on the Dividing Range, Stanthorpe, having a higher altitude, and having also lower relative humidity, has distinct advantages over the other two, and may be looked on as a good health resort from October to April (inclusive).

V.- That Mount Tambourine having a comparatively low relative humidity in winter, and a very low range of temperature is, par excellence, the station best suited for cases of early Phthisis during the cooler months of the year, from May to September (inclusive). For similar reasons, One Tree Hill, Brisbane is probably also a suitable resort during these months.

VI. That cases of early phthisis should, therefore, be sent to the vicinity of Dalby during the hotter months of the year, from October to April (inclusive), and to Mount Tambourine or the north-eastern slopes of One Tree Hill during the colder months, from May to September (inclusive).

#### VICTORIA.

But little can be said of Victoria, apart from what has already been. Taken as a whole, it has many things which remind one of its near neighbour New South Wales. It does not offer such inducement for the poorer classes, and those who have to earn their living. Consequently for that reason if for no other it is not to be compared with the mother colony. The Spring season generally sets in about the beginning of September; during which month the weather is usually mild and often quite warm, the average shade temperature being  $53^{\circ}$  F. The weather in October is genial and pleasant, with a mean temperature

of 57°F.; November is characterized by fine, warm and sometimes even hot weather, the mean temperature in this month being 61°. The hottest months are December January and February: the greatest heat occurring towards the end of January or the beginning of February. With March the autumn season sets in, which, although subject to stormy weather, gales of wind, and a large rainfall, is for the healthy the most genial and beautiful portion of the year. June inaugurates the winter and July is the coldest month. During this cold winds are common. Sudden atmospheric changes are by no means uncommon, and are, at times, very trying.

Enteric Fever and diarrhoeal diseases are very common in Melbourne and suburbs.

The following are a few places specially recommended for Phthisical subjects - arranged in alphabetical order.

Alexandra:- about 1000 feet above sea level 90 miles N.E. of Melbourne, and 75 miles from the coast, on the Goulburn River. The country is mountainous, the scenery magnificent. The average rainfall is 26 inches.

Ballaarat:- 1,437 feet above the sea level. 100 miles (by rail) from Melbourne and 60 from the coast. This is the second city of Victoria, enjoys a temperate climate, and its noted salubrity makes it a great place of resort by invalids requiring a bracing yet not too cold climate.

The mean annual temperature is 54.3° F.

The average rainfall is 26 inches.

The hotels are some of the finest out of Melbourne: also a Hydropathic establishment flourishes.

Charlton:- 173 miles (by rail) N.W. from Melbourne and 148 from the coast, situated on the Avoca River in an extensive agricultural district. The climate is remarkably dry and equable; no sudden changes of temperature; the winter is mild and short; the average rainfall is 16.7. This is a spot specially recommended for consumptives.

Echuca:- 156 miles (by rail) N. of Melbourne and 146 from the coast on the River Murray, surrounded by forests of gum trees which protect the town from winds, impregnate the pure atmosphere with the balsamic-<sup>odour</sup> of the essential oil of Eucalyptus. The climate is warm, equable, and very dry. The mean annual temperature is 58.9° F; the average annual rainfall is only 16 inches, with 67 rainy days in the year; there is very little variation of temperature, and hardly any sudden atmospheric changes. Its one draw back is a liability to floods, but these are rare.

Lorne:- 115 miles S.W. of Melbourne a favourite watering place on the south coast; specially recommended for those cases of Phthisis requiring a marine climate. The mean annual rainfall is 30.4 inches. The mean annual temperature is 58° F.

Mount Macedon:(The town):- 2200 feet above sea level, within one hours journey by train from Melbourne. The fact of its



having been chosen as the summer residence for the Governor of Victoria, and that Melbourne Medical Men make it the summer quarters for their families, will be sufficient to show how it stands in favor as a health resort.

Sunbury:- 702 feet above sea level, 24 miles (by rail) N.W. from Melbourne, very dry healthy climate, average annual rainfall 21 inches; mean annual temperature 55.7° F.

Wedderburn:- 573 feet above sea level, 150 miles by rail N.W. from Melbourne: warm, equable, very dry climate; average annual rainfall 20.6 inches.

#### SOUTH AUSTRALIA.

The climate of South Australia is very hot and very dry, but owing to its dryness, the heat, except on hot wind days, is seldom oppressive. The hottest months are December, January and February.

Hot winds are by no means uncommon and generally last for three days at a time; the heat can only be compared to the blast of a furnace. Clouds of fine dust are a most painful concomitant; in short these hot winds are very much like the sirocco of North Africa, and to phthisical patients are terrible. It is worthy of note that as settlement proceeds, the hot winds become less frequent and also less severe.

While on the whole, the climate of South Australia is highly salubrious, and undoubtedly healthy for the healthy; there are not many parts which can be recommended as suitable for the treatment of consumption.

T A S M A N I A.

It might be well to introduce this part by relating the following. A young married man, with good family history, developed right apical trouble, in Liverpool, England. His medical man recommended a sea voyage to Hobart and residence there. He arrived there early in the Summer. He is now dead.

Tasmania for the consumptive may be divided into five regions the northern, eastern, western and southern littoral districts and the central plain. Its mountain districts may be left unconsidered, being too unsettled, and at once it may be stated that the western and southern are not suitable as homes for the consumptive. The young man above referred to was sent to the south coast.

Of the remaining, the Northern is by far the best part, and yet it is undoubtedly moist when compared with NewSouth Wales.

At Launceston the chief town in the north of the island, the mean annual temperature is  $55^{\circ}$  F., the mean maximum temperature  $64^{\circ}$  F., the mean minimum temperature is  $43^{\circ}$  F. The average annual rainfall is nearly 31 inches with 119 wet days. The Eastern coastal region may be said to possess the same general climatic features as those of the Northern, but it is less likely to feel any hot breezes, and on the other hand feels the south-easterly winds more.

The western, must be considered quite out of the question for consumptives. Though not unhealthy for hardy constitutions, its wild, tempest torn, moisture laden shores,

must be distinctly regarded as unsuitable for the cases under consideration.

Hobart, the capital, and taken as representing the South Coast must be classed as windy. One hears much of the Hobart climate but as a permanent health resort for consumptives the writer would certainly not recommend it.

It is a point to be remembered that Tasmanian consumptives are sent to New South Wales for a suitable climate: but it is undoubtedly an excellent resort for those wishing to avoid the heat of an Australian summer. Just as it has been proved by long experience that the Anglo Indian recovers tone more quickly by a trip to and sojourn in Tasmania than to any other part, so it can be recommended as a temporary abode for the Austrian consumptives, but not for the newly arrived British and certainly not for any as a permanent abode.

#### N E W Z E A L A N D .

For the express purpose of knowing these Islands, the writer took a prolonged tour throughout almost every part of them, and obtained information on all hands.

New Zealand extending as it does from Latitude south  $34^{\circ}$  to  $47^{\circ}$  has, of course, every variety of climate. In addition it presents almost every variety of plain, plateau, and mountain, and therefore includes within her borders a vast variety of climatic types, determined by elevation.

The mean annual temperature of the North Island is  $57^{\circ}$  F., and of the South Island  $52^{\circ}$  F.

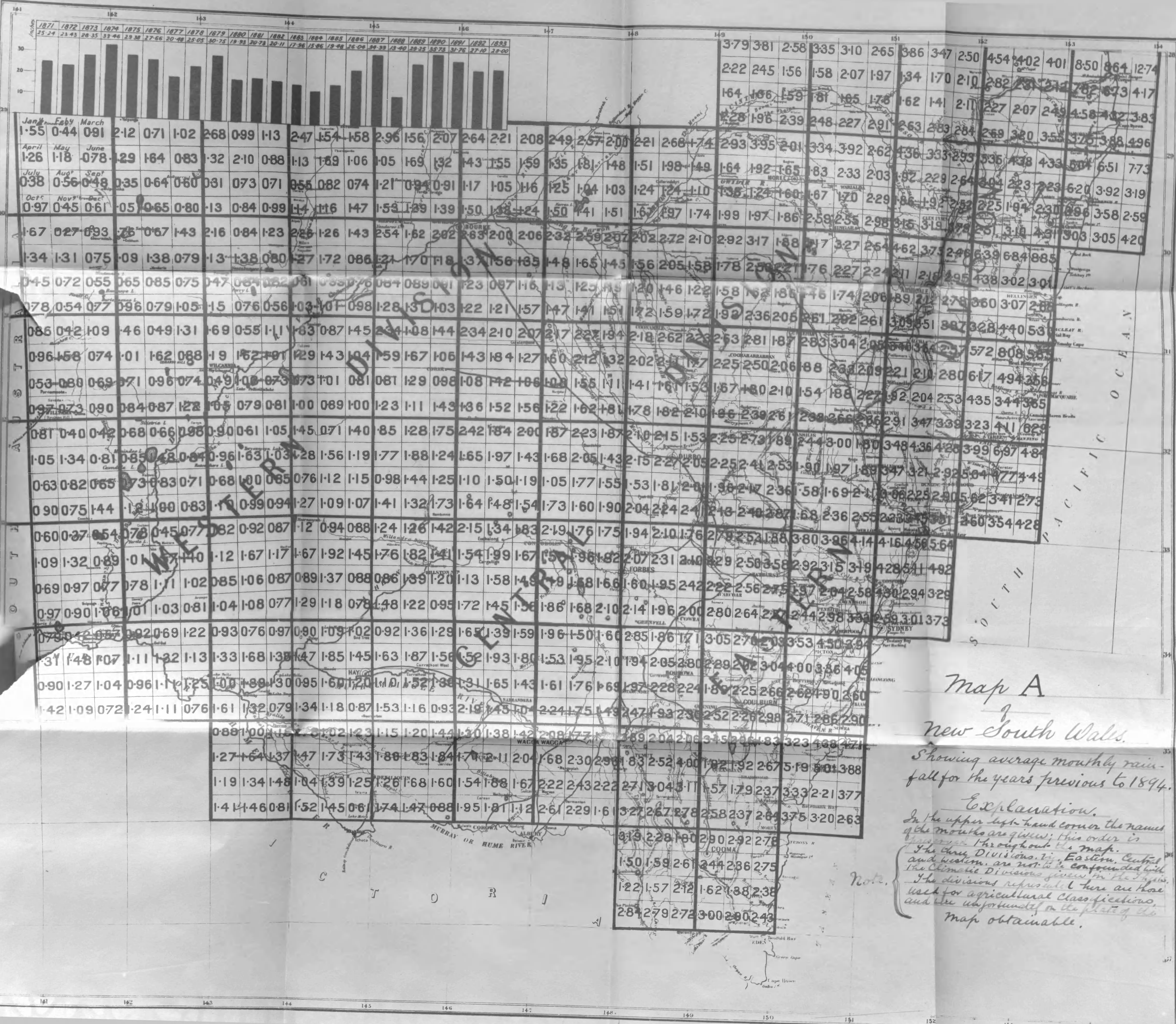
In a general way the climate of New Zealand may be described as breezy, humid, and, although free from great extremes, most undoubtedly subject to sudden and sharp fluctuations. Indeed the weather in these Islands is almost as capricious as in the British Islands.

As illustrating the windy character of the Islands, the common remark is that the people are known wherever they go by their habit of grasping their hat while walking.

Making every deduction on the score of variability, humidity, and windiness, there is no doubt of the charming character of the climate. But considered from the point of view for which the paper is written then the case is altered. The consumptive should not, as a rule, be advised to select New Zealand as his home. But let it be clearly understood it is far before the British Isles. If there be no family or other reasons to the contrary the interior of New South Wales should be chosen in preference. If New Zealand must be the abode, then let it be the North Island, and away from the Coast. Napier, that much lauded spot, in the Hawkes Bay District, the writer found to be most enervating, notwithstanding that he was used to the Australian summers. As was said of Tasmania so it is now said of New Zealand. These various Islands add to the advantages of New South Wales, as they afford excellent summer resort for those who live in the neighbouring Continental Island.

One thing, although not bearing on this paper, the writer can say without fear of contradiction. Nowhere could better results be obtained for Rheumatic subjects than in the Hot Lakes District of New Zealand.



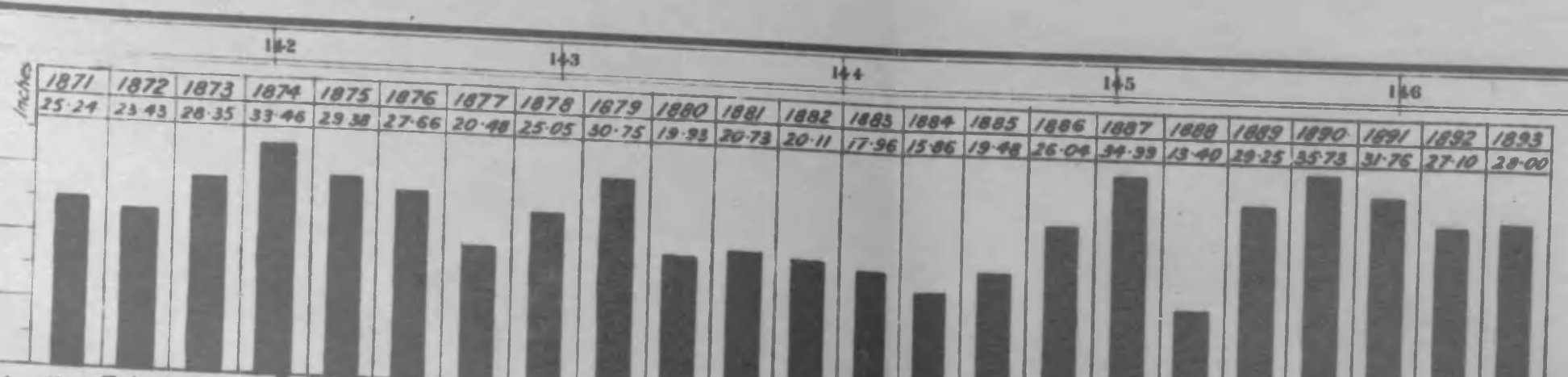


*Map A  
of  
New South Wales.*

*Showing average monthly rainfall for the years previous to 1894.*

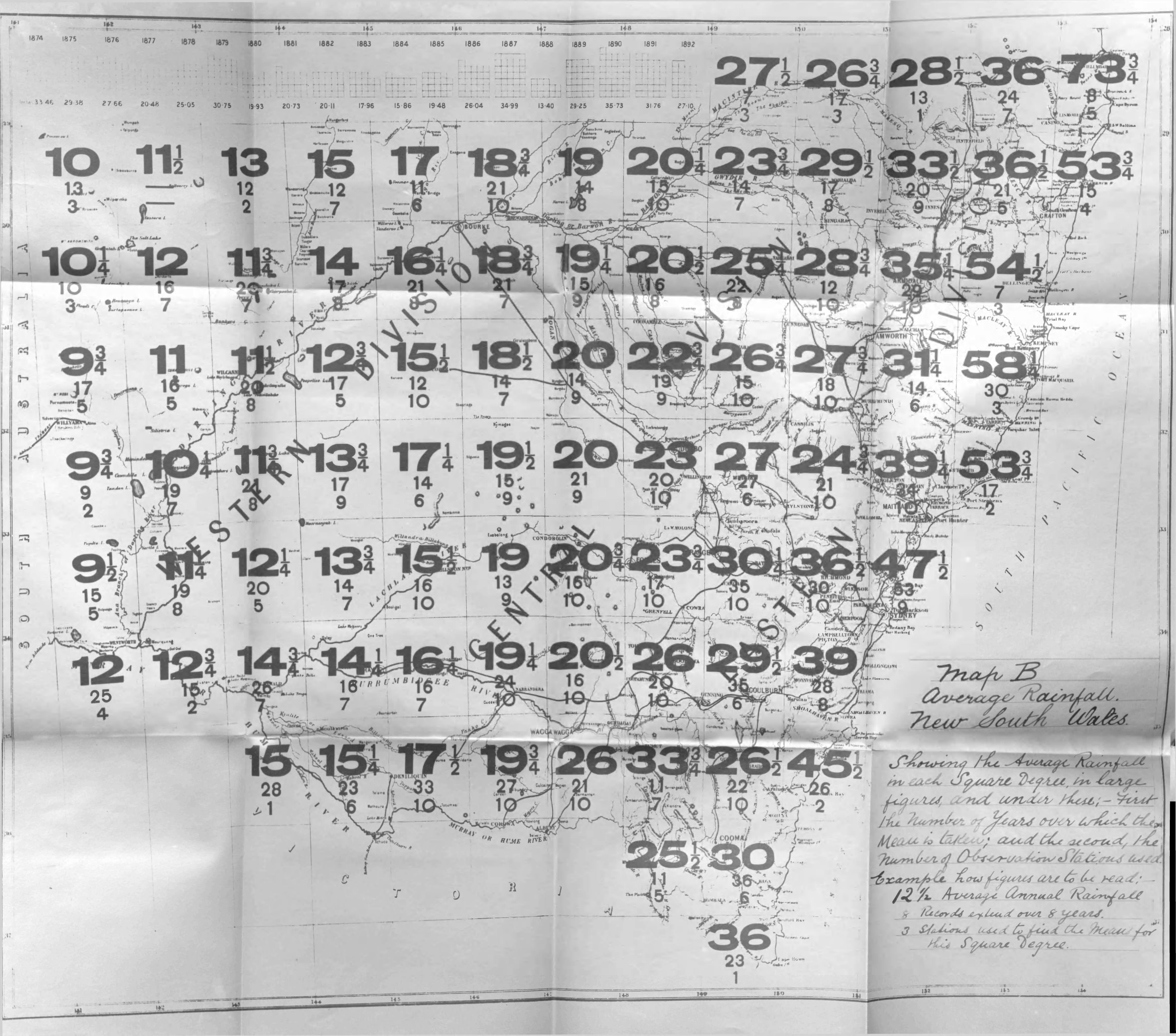
*Explanation.*  
*In the upper left-hand corner the names of the months are given; this order is preserved throughout the map.*  
*The three Divisions, viz., Eastern, Central and Western, are not to be confounded with the Climatic Divisions given on the map.*  
*The divisions represented here are those used for agricultural classifications, and are unfortunately on the plate of the map obtainable.*

*Note.*



Year	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1871	1.55	0.44	0.91	2.12	0.71	1.02	2.68	0.99	1.13	2.47	1.54	1.58
1872	1.26	1.18	0.78	1.29	1.64	0.83	1.32	2.10	0.88	1.13	1.69	1.06
1873	0.38	0.56	0.48	0.35	0.64	0.60	0.31	0.73	0.71	0.55	0.82	0.74
1874	1.67	0.27	0.93	1.26	0.67	1.43	2.16	0.84	1.23	2.25	1.26	1.43
1875	1.34	1.31	0.75	1.09	1.38	0.79	1.13	1.38	0.80	1.27	1.72	0.86
1876	0.45	0.72	0.55	0.65	0.85	0.75	0.47	0.87	0.82	0.61	0.85	0.76
1877	0.78	0.54	0.77	0.96	0.79	1.05	1.15	0.76	0.56	1.03	1.07	0.98
1878	0.85	0.42	1.09	1.46	0.49	1.31	1.69	0.55	1.11	1.63	0.87	1.45
1879	0.96	1.56	0.74	1.01	1.62	0.88	1.19	1.52	1.01	1.29	1.43	1.04
1880	0.53	0.80	0.69	0.71	0.96	0.74	0.49	1.08	0.73	1.01	0.81	0.81
1881	0.97	0.73	0.90	0.84	0.87	1.22	1.05	0.79	0.81	1.00	0.89	1.00
1882	0.81	0.40	0.42	0.68	0.66	0.98	0.90	0.61	1.05	1.45	0.71	1.40
1883	1.05	1.34	0.81	0.85	0.48	0.84	0.96	1.63	1.03	1.28	1.56	1.19
1884	0.63	0.82	0.65	0.73	0.83	0.71	0.68	1.00	0.85	0.76	1.12	1.15
1885	0.90	0.75	1.44	1.12	1.00	0.83	1.10	0.99	0.94	1.27	1.09	1.07
1886	0.60	0.37	0.54	0.78	0.45	0.77	0.82	0.92	0.87	1.12	0.94	0.88
1887	1.09	1.32	0.89	1.01	1.17	1.40	1.12	1.67	1.17	1.67	1.92	1.45
1888	0.69	0.97	0.77	0.78	1.11	1.02	0.85	1.06	0.87	0.89	1.37	0.88
1889	0.97	0.90	1.06	1.01	1.03	0.81	1.04	1.08	0.77	1.29	1.18	0.78
1890	0.75	0.42	0.67	0.92	0.69	1.22	0.93	0.76	0.97	0.90	1.09	1.02
1891	1.37	1.48	1.07	1.11	1.32	1.13	1.33	1.68	1.38	1.47	1.85	1.45
1892	0.90	1.27	1.04	0.96	1.14	1.25	1.00	1.89	1.30	0.95	1.60	1.20
1893	1.42	1.09	0.72	1.24	1.11	0.76	1.61	1.32	0.79	1.34	1.18	0.87
1894	0.88	1.00	1.15	1.02	1.23	1.15	1.20	1.44	1.30	1.38	1.42	2.08
1895	1.27	1.64	1.37	1.47	1.73	1.43	1.89	1.83	1.84	1.70	2.04	1.68
1896	1.19	1.34	1.48	1.04	1.39	1.25	1.26	1.68	1.60	1.54	1.88	1.67
1897	1.4	1.46	0.81	1.52	1.45	0.61	1.74	1.47	0.88	1.95	1.81	1.12
1898	3.79	3.81	2.58	3.35	3.10	2.65	3.86	3.47	2.50	4.54	4.02	4.01
1899	2.22	2.45	1.56	1.58	2.07	1.97	1.34	1.70	2.10	2.82	2.31	2.42
1900	1.64	1.66	1.59	1.81	1.65	1.76	1.62	1.41	2.10	2.27	2.07	2.49
1901	1.28	1.96	2.39	2.48	2.27	2.91	2.63	2.89	2.84	2.69	3.20	3.55
1902	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1903	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1904	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1905	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1906	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1907	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1908	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1909	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1910	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1911	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1912	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1913	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1914	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1915	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1916	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1917	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1918	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1919	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1920	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1921	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1922	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1923	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1924	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1925	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1926	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1927	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1928	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1929	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1930	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1931	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1932	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1933	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1934	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1935	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1936	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1937	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1938	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1939	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1940	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1941	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1942	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1943	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1944	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1945	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1946	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1947	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1948	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1949	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1950	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1951	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1952	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1953	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92	2.62	4.36	3.33	2.93
1954	2.21	2.68	1.74	2.93	3.95	2.01	3.34	3.92				



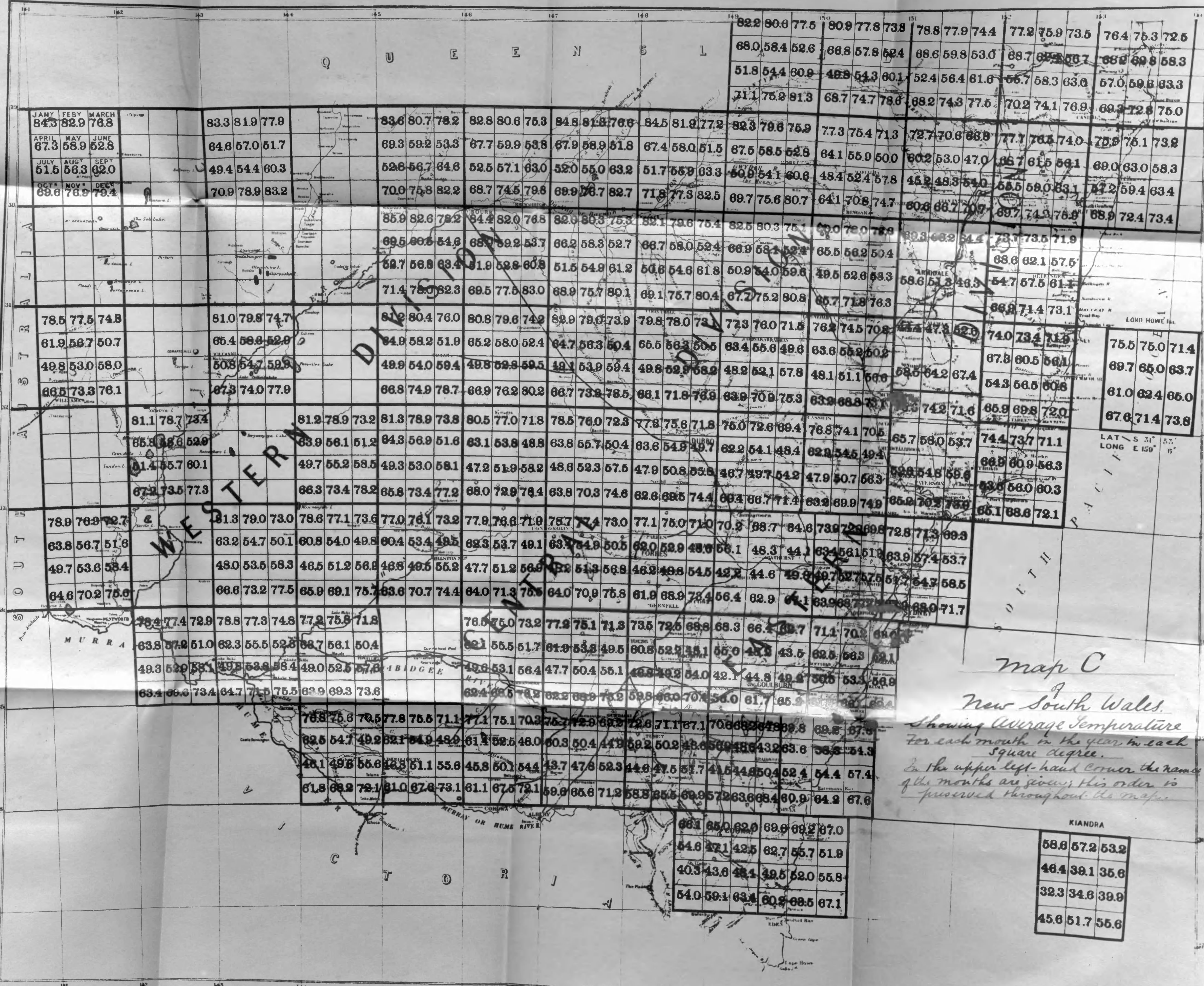


Map B  
Average Rainfall,  
New South Wales.

Showing the Average Rainfall in each Square Degree, in large figures, and under these; - First the Number of Years over which the Mean is taken; and the second, the Number of Observation Stations used. Example how figures are to be read; -  $12\frac{1}{2}$  Average Annual Rainfall & Records extend over 8 years. 3 Stations used to find the Mean for this Square Degree.



Q U E E N S L A N D



JAN	FEB	MARCH
84.3	82.9	76.8
APRIL	MAY	JUNE
67.3	58.9	52.8
JULY	AUG	SEPT
51.5	56.3	62.0
OCT	NOV	DECE
69.6	76.9	79.4

Map C  
 of  
 New South Wales.  
 Showing Average Temperature  
 for each month in the year in each  
 square degree.  
 In the upper left-hand corner the names  
 of the months are given; this order is  
 preserved throughout the map.

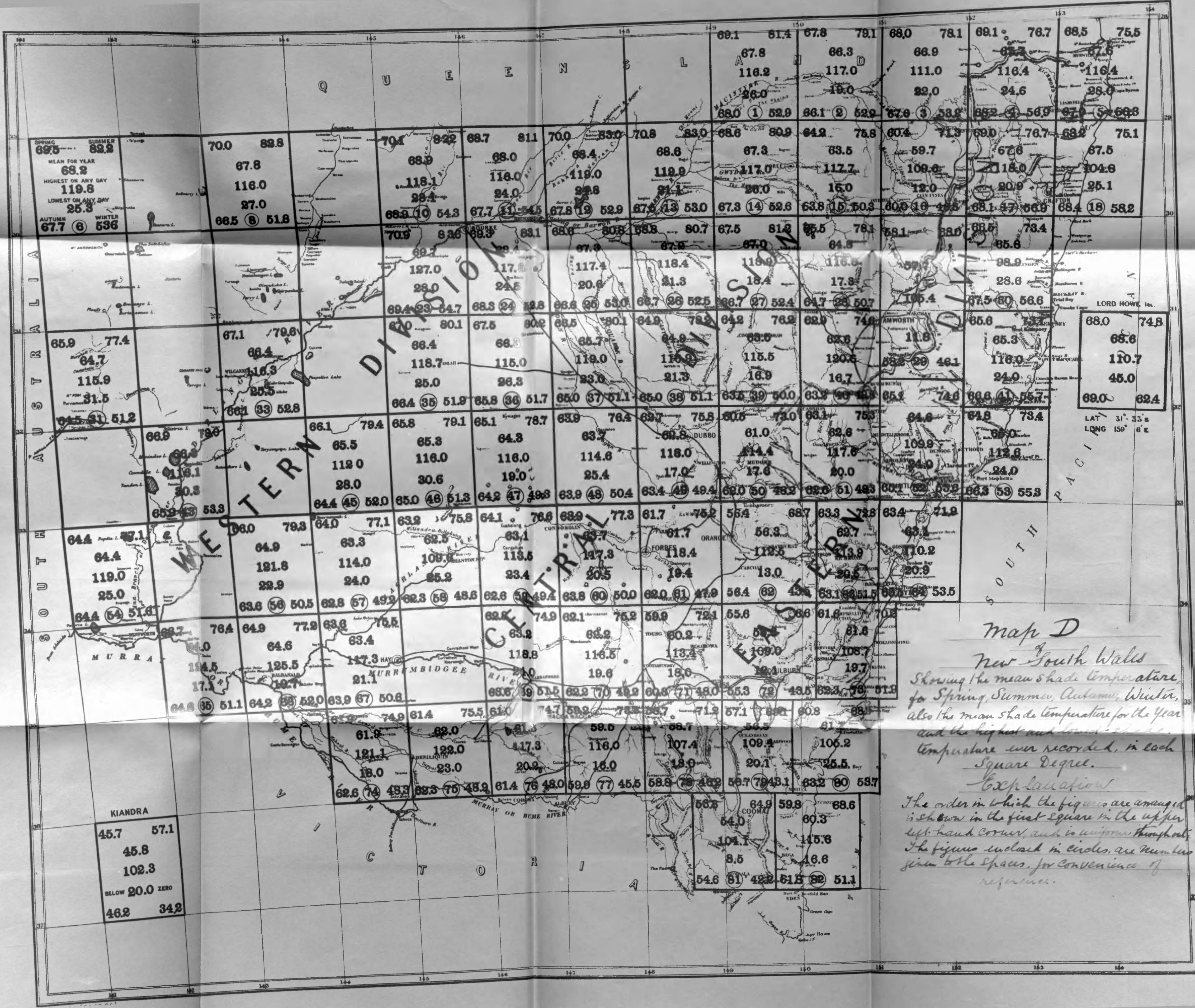
KIANDRA

58.8	57.2	53.2
46.4	39.1	35.6
32.3	34.6	39.9
45.6	51.7	55.6

66.1	65.0	62.0	69.9	69.2	67.0
64.6	67.1	42.5	62.7	55.7	51.9
40.3	43.6	44.1	42.5	52.0	55.8
54.0	59.1	63.4	60.8	68.5	67.1

LAT S 31° 35'  
 LONG E 150° 0'





Map D  
 New South Wales  
 Showing the mean shade temperature for Spring, Summer, Autumn, Winter, also the mean shade temperature for the Year and the highest and lowest shade temperature ever recorded, in each Square Degree.

*Explanation*  
 The order in which the figures are arranged is shown in the first square in the upper left-hand corner, and is uniform throughout. The figures enclosed in circles, are numbers given to the squares, for convenience of reference.

KIANDRA  
 45.7 57.1  
 45.8  
 102.3  
 BELOW 20.0 ZERO  
 46.2 34.2

LORD HOWE Is.  
 68.0 74.8  
 68.6  
 110.7  
 45.0  
 69.0 62.4

LAT 31° 33' S  
 LONG 150° 6' E