On the Climate and Prevailing Diseases of Singapore

Part 1

Singapore, with Pinang, and Malabar forms the "Arbiter" or "Eastern Settlements" at present under the jurisdiction of the Bengal Government; but shortly to be transferred to Her Majesty's Colonial Department.

The Island of Singapore before 1819, was entirely covered with primeval forest, and inhabited only by about 800 Malays, who living in the huts which occupied themselves in fishing and piracy. In February of that year, it was formally taken possession of by Sir T. Stamford Raffles, for H. R. H. the Duke of the N. E. I. C. —

The object this eminent man had in view was to establish a commercial station to counteract the New Dutch Settlement of Batavia about 30 miles from Singapore, and to completely had its answer to his expectation. That while the one is now a miserable petty port, with scarce any trade or shipping, the other has a trade to the amount of $12,000,000 sterling. To what does Singapore owe this sudden rise and great prosperity? To four causes; firstly, its position is central for commerce; all ships sailing...
from Hemilent River, and if a
settlement had been made there,
I have no doubt we should not
have had the same amount of
prosperity, as our enterprising
merchants and colonists would
never have been prevailed on
to settle in an unhealthy colony:
but without knowing the comparative
healthfulness of the two localities,
Providence seems to have directed
him to what is now the flourishing
settlement of Singapore—

Position of Singapore. The Island is situated in Lat. 1° 10' 17"
and Long. 104° 18', at the southern
extremity of the Malayan Peninsula,
being the China Sea on the East, and
the Straits of Malacca on the South
and West; between it and the
Mainland is a Narrow Passage,
which in former ages was the route
to, and from China, and which led
to the ancient Malay city of Johore,
the ruins of which are now scarcely
to be seen, but of which there is a
Malay tradition that a cat could
travel for two days from house to
house to house, without descending.

To the South of Singapore is a Strait
of 1/2 mile in breadth, into which
vessels now pass on their way
to and from China, and on the
opposite side of the Strait is a
large cluster of islands, so many
it
Sailing between India and China, must pass within sight of it, all vessels from Europe to China in the S. W. Monsoon must pass equally near, and all vessels from China to Europe in the N. E. Monsoon, vessels to China can either take the first route, which leads to Singapore or another which is some distance from it, and lastly all vessels from the Australian Colonies to India generally call here; Secondly, it is within a few hundred miles of Java, Sumatra, and Formosa, and the Malay Peninsula are close to it, so that the commerce of these countries naturally finds its way to Singapore, further induced by the 5th reason, that it was the first British Free Port, to which the natives flocked rather than to subject to the duties imposed by the Dutch Government.

The fourth reason of its prosperity is its rare Healthiness, to which we shall now particularly turn our attention.

At one time Sir Stamford Raffles thought of fixing on one of the Lueian Islands, situated about 15 miles from Singapore as his Free Port, but that island is eminently unhealthy.
in number, that they are called the Malay "the Thousand Islands." About 30 miles from Singapore is the nearest point of the extensive island of Sumatra, which exerts great influence over the climate of Singapore. This island of Singapore resembles the Isle of Wight in size and shape. It is 25 miles in length and 14 in breadth, and contains about 207,000 square acres, of which about 70, or 60,000 are under cultivation, the remainder being covered by primitive jungle. The highest point in the island is near the centre and is named Bukit Timah, or Hill, because that metal was at one time obtained from it. Its elevation is about 300 feet above the level of the sea. The other parts of the island present sloping ridges with valleys between, varying from 50 to 180 feet in height. The valleys are not extensive, with the exception of that on which the Town is built. The island is partially surrounded by fringing reefs of Coral, but these do not affect the health of the inhabitants. They are closed at low water. Sand and mud, with here and there rocks of Sandstone and Silt Claystone, form the anchoring ground.
ground close to the shore. The rivers are very small but numerous, many creek-like recesses being seen on coasting the island, which are apt to be mistaken for the mouths of considerable rivers—these are merely salt water creeks with a small stream opening into them. Extensive marshes exist along the coast, but they are all subject to tidal influence—they are thickly covered with Mangrove Trees.

The Hill above alluded to, called Pochee Napa, is composed of Granite which rests on sandstone of the tertiary formation may be said to form the only varieties of rocks on the island, and by their disintegrated materials, with the detritus of coal, and the humus of plants, the soil is formed. The upper soil is light and porous, on the tops of hills a white sand, towards their base a greater mixture of Alumina, and the whole is colored with these forming what is known as red soil. Some hills are covered with Nodules of Alumina and iron which receive the name of Patrite, and are much used for hardening the roads, for which, from their hardening quality, they are very admirably. This kind of soil has in India obtained the credit of being the cause of fever, from this circumstance.
circumstances of fever being endemic when it apparently formed the only mineral, but I cannot imagine how it can generate fever any more than granite in the Pyrenees as supposed by Humboldt—unless we conclude that the soil which is formed from disseminated latite and granite is favorable to luxuriant vegetation, the decomposition of which may originate fever—but this is not the case in Singapore. From an analysis by Mr. Pollock of soil brought by me from Singapore, that of the Galilee is composed of silicious matter from the washings of the hills mixed with much humic acid; and in small quantities, the phosphates of lime and magnesia; with nitric acid and ammonia; the result of the decomposition of animals—as the soil of the hills contained silica and alumina; and the Galilee, lime and phosphates. The mixture of the two, forms a rich soil for all kinds of plants, especially palm and palmyra which require little silicious matter. In separating the valley of Singapore marine shells and black mud have been found, showing that a process of elevation has been going on. The great physical feature of the Island is its forest or Jungle. Jungle composed of palms, as the ground rattan, the cabbage and wild arica palm. Many kinds of trees, Orchids, and creepers, which twist in the most fanciful and wonderous way, twine around and interlace with the
the tall trees, such as the Poon, which furnish a resin called by the Natives Pata Thucheem (Cats Eye), known in commerce as Ophal. This tree attains an immense size and great height — I have measured one whose circumference, five feet from the ground, was 38 feet. The branches are all thrown out from the top, so that the tree runs up from 60 to 120 feet without a branch. Many other trees grow so close together that it appeared surprising that they did not destroy one another, while the many creeping plants, as the ground-cotton which attains the length of 100 or 100 feet; another species from which are elastic Tires like casuarina is procured which a third affords a large supply of pure and limpid water; a refreshing beverage for the thirsty traveller; these wind around the trees, and make an almost impenetrable thicker, completely preventing the sun's rays from impinging on the ground and in all probability hindering the development of Mists. This dense forest covers the island except where it is under cultivation and extends to the sea shore, to the verge of tidal influence; when the Masproue almost equally thick, takes its place even to the limit of low water mark. The banks of rivers are equally wooded, and when the variety of forms and forms of trees, and beautiful flowers are seen from a boat, as it glides along.
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the tall trees, such as the 1004, which furnish a resin called by the Native Mata Tuhiki (salt iron) burned in commerce as Opal.

This tree attains an immense size and great height — I have measured one whose circumference, five feet from the ground, was 36 feet. The branches are all thrown out from the top, so that the stem rises up from 60 to 120 feet without a branch — Many other trees grow so closely together that it appears surprising they do not destroy one another, while the

many creeping plants, as the ground

cactus, which attains the length of 700 or 800 feet, another species from which an elastic juice like casuarina is procured

which a third affords a large supply of pure and limpid water, a refreshing beverage for the thirsty traveler,

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Mangrove almost equally thick tangled

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mark. The banks of rivers are equally wooded, and where the variety of plants

and forms of trees, and beautiful flowers are seen from a boat, as it glides along,
one of the rarest, few things in nature can surpass it. The jungle, where cut down, is replaced by a rank grass called "Klang Klang" of little use as food for cattle, while its wide-spread roots are of such strength as to pierce several feet into the roots of trees at considerable depth below the surface of the ground, causing great annoyance to the farmer.

It is only when the jungle is cut down, and the ground unencumbered as we shall see that malaria is generated in this Island.

Meteorology of Tromposi -

The winds, of which more than many other atmospheric influences depends the salubrity of any climate, are both local and general. The local are the land and sea breezes, the general are while equally the S. E. and W. W. monsoons. The to which the land breeze commences to blow about 8 A.M. and continued till between 5 and 6 P.M. when it is replaced by the warm, considered as a sea breeze, or sometimes by a calms. The further removed from the sea, and the nearer the jungle, the dryer is the land breeze felt, and the cooler does it appear. Land breeze where there is much cultivation the breeze is not so cool, but when direct from the jungle, and in close proximity to it. The land breeze is a great boon to all the residents, especially to European females whose relaxed frames
Sea-breeze are refreshed and invigorated by it, as it grows cooler towards morning. During the N. E. monsoon the land-breeze sets in earlier than during the S. W. monsoon while the sea-breeze is just the contrary. The latter commences to blow early in the morning, increasing during the forenoon and lulls at sunset, when there is generally a calm, for an hour or two, till the land-breeze sets in.

In Singapore sowie the sea-breeze is recognized by its warmth, as it blows over shallow sand, which during the day are heated by the sun's rays. When the wind blows from the S. W. the natives give it the name of Uyin Jawa (Sea Wind) because it comes from the direction of that island. In the month of September this wind is very much felt, especially by old residents and ladies. In those who are weak and sickly it causes alarming symptoms with much languor and lassitude, which is in a measure experienced by the strong and robust, so that on rising in the morning they feel unexpected and even more wearied than on going to bed. It also gives rise to longa which with many is a most troublesome and invisible affection.

To the feathered tribe this wind is especially criminal to Turcles for example — it does not extend farther inland than the confines of the Jungle. While...
Peninsula, and on the North and South West by Sumatra, and the numerous small islands on the other side of the Straits at Alto by the proximity to the Equator. Still the winds are merely tempered by these protective influences, and if more than ordinary heat has accumulated moisture and electricity, a squall generally sets in; that is a smart gale of wind, followed by a shower of rain, and sometimes accompanied by thunder and lightning. These squalls seldom last more than one or two hours, according to the direction of the Monsoon, so that if these squalls — in January, when the South East Monsoon is blowing, they are from the North, during the South West Monsoon, they are from the South or S.W. Their frequency is uncertain, during one month there may be 4 or 5, in another 20; but they are more frequent in April and September, in the former months, the S. E. Monsoon changes to the S. W., and in the other from the S. W. to the N. E.

A squall is known to be approaching when a dark cloud (Timbur) is seen riding from the sea with its outer edge convex, and lighter in color than the mass behind, which is nearly black. The cloud quickly spreads over the heavens, the air that was heavy hot, and close, fine fields cool, a dark ripple is seen on the water, a rushing noise is heard, threatens the breeze, quick with projects, harmful.
powerful in its effects, and short in its duration, followed by a heavy shower of rain, by which Nature in all shapes is refreshed. These squalls are common but each time earlier, like a fit of ague, and more frequent between the hours of 3 and 5 A.M. than at any other time.

I have been thus particular in my description of the currents in this climate, because much of the health and comfort of the residents depend on them, indeed by several authors, the immunity of Singapore from fever is attributed to its free ventilation; but I shall presently show that although greatly assists, it is not the sole cause of its salubrity.

On Rain. It is a most important subject in considering the Climate of a country, the rainfall and quantity of moisture in the Atmosphere. It has been generally stated that at and near the Equator, more rain falls within the year than in other places, but the number of rainy days is less than in higher latitudes.

According to the Journal de Physique, the mean number of rainy days, from 9th Lat. 12° to 43° is 78 ½, from 43° to 46° it is 103; from 46° to 50° 13 ½, and from 51° to 60° 161 days.

Penang, situated about 4 ½° to the S.W. of Singapore, at the opposite entrance of the Strait of Malacca, has according to Dr. Cordell, an average of 182 rainy days. I am sorry I cannot furnish a table of the number of rainy days in Singapore, but in the Medical
Medical journal for 1839. I find the following statement, which coincides with my experience of the climate:

"In a place little more than 80 miles from the Equator, there is of course very little variety in the seasons—The greatest quantity of rain falls in December and January, but refreshing showers are experienced throughout the year, in 1820 each fell on 229 days, in 1821, on 253 days; in 1824 on 156 days, and in 1825, on 171 days, giving an average in 4 years of 183 rainy and 180 dry days."

This makes Singapore an exception to other lands near the Equator, in the number of rainy days, and contributes to the salubrity of the place. The following Table gives the Rain Fall.

<table>
<thead>
<tr>
<th>Month</th>
<th>1842</th>
<th>1843</th>
<th>1844</th>
<th>1845</th>
<th>Rainfall (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>37.5</td>
<td>32.585</td>
<td>18.070</td>
<td>10.219</td>
<td>57.50</td>
</tr>
<tr>
<td>Feb</td>
<td>67.5</td>
<td>10.900</td>
<td>3.050</td>
<td>6.923</td>
<td>4.225</td>
</tr>
<tr>
<td>Mar</td>
<td>5.09</td>
<td>7.220</td>
<td>8.045</td>
<td>4.150</td>
<td>3.030</td>
</tr>
<tr>
<td>Apr</td>
<td>3.19</td>
<td>10.071</td>
<td>5.645</td>
<td>12.300</td>
<td>7.250</td>
</tr>
<tr>
<td>May</td>
<td>5.95</td>
<td>9.003</td>
<td>9.000</td>
<td>7.775</td>
<td>5.025</td>
</tr>
<tr>
<td>Jun</td>
<td>7.490</td>
<td>6.320</td>
<td>2.270</td>
<td>6.025</td>
<td>5.375</td>
</tr>
<tr>
<td>Jul</td>
<td>7.228</td>
<td>5.98</td>
<td>8.500</td>
<td>5.890</td>
<td>3.395</td>
</tr>
<tr>
<td>Aug</td>
<td>7.026</td>
<td>6.25</td>
<td>5.545</td>
<td>5.750</td>
<td>6.750</td>
</tr>
<tr>
<td>Sept</td>
<td>6.175</td>
<td>4.350</td>
<td>6.415</td>
<td>8.750</td>
<td>2.590</td>
</tr>
<tr>
<td>Oct</td>
<td>4.070</td>
<td>21.05</td>
<td>12.145</td>
<td>10.200</td>
<td>47.420</td>
</tr>
<tr>
<td>Dec</td>
<td>6.175</td>
<td>4.350</td>
<td>6.415</td>
<td>8.750</td>
<td>25.190</td>
</tr>
</tbody>
</table>

Total: 731.1861/247 92.300 89/17

Tapping...
Taking the average of the 14 complete years we have 93.697 inches, as the annual fall of rain in Singapore—which nearly coincides with Humboldt's statement that in the respective latitudes of 0° 19° 45° and 60°, the annual depths of rain are 96. 80. 39, and 17 inches. From this table we find that the greatest fall of rain occurs during the N. E. Monsoon, which is therefore often called the wet monsoon. Many tropical countries have an equal, nearly a greater fall of rain than Singapore, but it is confined to one time of the year, and therefore they do not receive an equal benefit with it, where the rain fall is more uniformly distributed throughout the year.

Turning in his account of the diseases of Bengal, stated, that heavy rain, followed by great heat, is the occasion of much disease. In Singapore, the rain falls in gentle showers throughout the year; give perpetual verdure to vegetation, cools the surface of the earth, and precipitates malaria before it can be diffused and concentrated in the atmosphere.

From this cause, the jungle is everywhere and loaded with moisture; it nullifies the currents of air that blow over it, giving it the pleasant and refreshing evening breeze, while the numerous small streams pour into the sea. The surplus moisture, thus distributed, leaves the vegetation and thirsty soil fit to take up. The atmosphere is charged with moisture, and reckoning that at the limit
of congelation, air absolutely humid holds in solution the hundred and sixty part of its weight of moisture, we need not be surprised that the atmosphere of Great Britain contains twice as much moisture as that of Great Britain.

Temperature.

We find the Thermometer which is of so much value in higher latitudes, of but little value in this because the feelings are so acute, and the body so susceptible to the most trifling changes in temperature. That often it seems as if a great change had taken place, when we find the Thermometer but slightly affected.

For instance, before a squall, we feel the air hot and oppressive; the perspiration streams from the forehead - the mind and body are exalted, the muscles lose their tone, felt as soon as the squall bursts, and the air feels cool, nature appears to have thrown off a load, the spirits recover their elasticity, the muscles their tone, and man feels that he has recovered his firmness and elasticity. Changes have certainly taken place in the electric Hygrometric and Thermometric conditions of the atmosphere, but any one examining the Thermometer will be obliged to find that it will only show a fall of from 3 to 7 degrees, which impressions could not be produced in this country by less than a change of from 10° to 20°.

The following
following Table gives the mean of observations taken each hour for every day in the month during 5 years:

<table>
<thead>
<tr>
<th>Thermometer</th>
<th>Thermometer</th>
<th>Mean Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January</td>
<td>79.55</td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>80.25</td>
<td>81.80</td>
</tr>
<tr>
<td>March</td>
<td>81.22</td>
<td>81.76</td>
</tr>
<tr>
<td>April</td>
<td>81.47</td>
<td>81.21</td>
</tr>
<tr>
<td>May</td>
<td>83.31</td>
<td>81.247</td>
</tr>
<tr>
<td>June</td>
<td>82.39</td>
<td>80.63</td>
</tr>
<tr>
<td>March</td>
<td>82.24</td>
<td></td>
</tr>
</tbody>
</table>

From these and other data their talented observer the late Captain Elliot, considered the following conclusions established: "That the range was generally from 6° to 7°; that the greatest height to which the thermometer rose was 87°.5 in the month of June 1842, whilst the lowest to which it ever fell was 74°.7 in the month of January 1843. That the coldest month of the year was January, that the hottest was May; the mean of the former being 79°.35, and of the latter 81°.31. That the mean temperature described a curve gradually ascending from January to May, and gradually descending from May to January. That the mean temperature for 5 years was 81°.247, and the difference between the hottest and coldest months amounted to 20°.76. That the maximum temperature was at 3 P.M. and the minimum at 6 A.M. and that the mean of these two is nearly the mean temperature, so that an observer registering a thermometer daily at 6 A.M. and 3 P.M. would..."
"...would by finding the mean, obtain the general mean temperature during the period of observation."

The mean temperatures of the following years shows that they do not vary one from another a single degree.

<table>
<thead>
<tr>
<th>Year</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1841</td>
<td>81°28</td>
</tr>
<tr>
<td>1842</td>
<td>81°61</td>
</tr>
<tr>
<td>1843</td>
<td>81°09</td>
</tr>
<tr>
<td>1844</td>
<td>80°82</td>
</tr>
<tr>
<td>1845</td>
<td>81°66</td>
</tr>
</tbody>
</table>

From observations made by Captain Davis twenty years before Captain Elliott, I have constructed the following table, but as his table is the mean of observations taken at 6 A.M. and at noon, I have contrasted it with a calculation from Captain Elliott at the same hour.

**Captain Davis**

<table>
<thead>
<tr>
<th>Year</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1820</td>
<td>79°5</td>
</tr>
<tr>
<td>1821</td>
<td>79°4</td>
</tr>
<tr>
<td>1822</td>
<td>80°02</td>
</tr>
<tr>
<td>1823</td>
<td>79°8</td>
</tr>
<tr>
<td>1824</td>
<td>81°0</td>
</tr>
<tr>
<td>1825</td>
<td>81°4</td>
</tr>
</tbody>
</table>

**Captain Elliott**

<table>
<thead>
<tr>
<th>Year</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1841</td>
<td>82°</td>
</tr>
<tr>
<td>1842</td>
<td>82°8</td>
</tr>
<tr>
<td>1843</td>
<td>81°58</td>
</tr>
<tr>
<td>1844</td>
<td>83°7</td>
</tr>
<tr>
<td>1845</td>
<td>84°4</td>
</tr>
</tbody>
</table>

From this we see that the temperature of Singapore has increased in 20 years 3°48, or we may suppose that owing to another method of conducting these observations, the difference has arisen...

In the first case, when Captain Davis made his observations they were very few houses in Singapore and they were surrounded on all sides by primitive jungle. Twenty years after when Captain Elliott made his observations, the jungle immediately surrounding the houses, had been cut...
down, and the ground brought under cultivation. The mode of conducting their observations by these two inquirers may have led to the difference in their results. For I found that by constructing a Nucleus with a double roof, and by clothing as to present all direct and reflected rays of the sun, these impinging on the thermometer; while it was open to all currents of air, that the mercury fell as one moving to 68° 30', which Captain Elliot never saw in his confined brick built observatory.

The next table required no comment.

<table>
<thead>
<tr>
<th>Month</th>
<th>Mean of Solar Terrestrial (8 a.m.) Radiation</th>
<th>Mean of Terrestrial (8 a.m.) Radiation</th>
<th>Surplus of Solar Radiation over Terrestrial Radiation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>115° 33</td>
<td>68° 20</td>
<td>29° 13</td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td>119° 62</td>
<td>63° 52</td>
<td>29° 41</td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td>119° 87</td>
<td>64° 52</td>
<td>29° 35</td>
<td></td>
</tr>
<tr>
<td>Apr</td>
<td>119° 90</td>
<td>67° 41</td>
<td>29° 49</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>122° 37</td>
<td>67° 90</td>
<td>29° 47</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>119° 97</td>
<td>66° 40</td>
<td>29° 58</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>121° 62</td>
<td>66° 52</td>
<td>29° 60</td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td>123° 52</td>
<td>66° 42</td>
<td>29° 80</td>
<td></td>
</tr>
<tr>
<td>Sept</td>
<td>125° 02</td>
<td>66° 95</td>
<td>29° 86</td>
<td></td>
</tr>
<tr>
<td>Oct</td>
<td>122° 32</td>
<td>65° 37</td>
<td>29° 87</td>
<td></td>
</tr>
<tr>
<td>Nov</td>
<td>125° 52</td>
<td>64° 95</td>
<td>29° 66</td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td>122° 35</td>
<td>66°</td>
<td>29° 88</td>
<td></td>
</tr>
</tbody>
</table>

According to Professor Meyer of Tittingen, the Medicine Temperature of the land at the Equator
Equator is 24° 20. and low as that is for a tropical country, we find that Singapore is actually lower; the mean annual temperature being 81° 247. Now this may be accounted for by the amount of comparative moisture which is attracted, and falls at a low temperature only on the Island, but also on the mainland of Singapore. The rain that we have in such abundance is the refrigerent. According to E. Rayleigh, water in its latent heat conversion into steam or vapour absorbs 965° of heat, and if 3000 tons of water annually fall to an acre in England, in Singapore it will be nearer 10,000 tons; this when multiplied by the 280,000 acres gives an enormous total. Allowing that much of this water runs off at once, still a very large portion must fall off in the form of vapour, thus rendering talent a vast amount of heat used accounting for the lowness of temperature. As the rain is so evenly distributed throughout the year, the slight variation of temperature is easily accounted for.

Part 2nd

In the following pages the influence which the influence of the atmosphere and the physical condition of the physical of the surface of the Island exert on the health and health of the inhabitants and on the development of currents of movement of disease will be investigated. In the Climate to facilitate this, I shall consider first the influence of one created jungle or natural forest; second, the fresh water marshes and salt; third, the salt water marshes subject to tidal influence; and fourth, the exposed.
Primal forest. - The Primal forest exerts very little influence not unhealthy upon the settlers, and near it. These Europeans who lived for months in the native forests without injury to their health, and were annoyed only at certain times by the bee-leech whose bite are often troublesome to heal. Many residents built their houses at a distance from the town, on the sides of the small ridges that intersect the scenery of Singapore, and white. They were surrounded by the jungle. I never remarked that they suffered from fever or any Malarial disease, until a fresh water marsh existed near them. The same observation is applied to Penang, while the greater part of the island is covered by dense forest in the midst of which are housed those inmates enjoy excellent health. In the Malayan Peninsula, 14 miles from the town of Malacca, is a hot spring surrounded by primitive jungle. Near it is a Bungalow, in which I lived for a month without experiencing any symptoms of fever, and it has been used as a residence for invalids for the last 30 years without the least giving rise to the idea that fever could be produced by the jungle. I know that the same observation applies to Borneo. The Town of Sarawak is surrounded by primitive jungle and is a most healthy settlement, entirely free from endemic fever. In Java the same also, in fact the most ample experience has proved that residence near or amidst primi
tive jungle in the Eastern settlements is not attended by fever produced by malaria.
It is difficult to explain why such a dense mass of vegetation should not be productive of malarious influence when a much lesser amount of vegetation freely exposed to sun and rain, will do it — Lichten gives a reason for the slowness of vegetable decay in such situations — and this slowness of decay may be the reason why there is not sufficient malarious influence generated to produce fever — When decay goes on, the carbon united with the oxygen of the fibre, forms carbonic acid while the hydrogen takes oxygen from the air to form water. The gradual combination of the combustible elements of a body with the oxygen of the air is what he terms leucæmous. Now in a dense forest where the sun does not reach the ground, and ventilation is not perfect, the carbonic acid formed, rests as not unhealthy a layer on the ground and around the vegetable matter, preventing the access of the air, and arresting further decay. But if the jungle should be cut down, and the ground turned up for agricultural purposes before it has been deprived of its moisture by drainage, this decay goes on rapidly, and with the decay, it generates that "something" which yields rise to fever and certain other diseases, and is called chilli, malarial, or malarial.

"Secondly, I will consider the influence exerted by the push water. Marshes or bogs. Marshes differ widely in their effects on the human constitution from the first mentioned. They..."
They are usually bounded by hills, and many of them present the appearance of valleys—once having been covered with original jungle, which has since been cut down by the Indians for agricultural purposes such as rice fields, but that not having found a profitable employment, they have been deserted and are now overgrown with rank vegetation, such as corn and swampy soil. The greater part of the rain that falls trickles through the vegetable mould, and lodges in the clayey subsoil, giving forth continual moisture to the plants, such as the grasses which rise up to the height of 6 feet or more vigorous and strong when they die, their decay gives strength and stimulus to others that take their place. The sun shines down with full brilliancy and effect having no leafy trees to ward it off, and raises into existence many forms of organic life with alarming celebrity. The hills around protect these valleys from the local breezes and sudden squalls, and thus the close warm atmosphere gives rise to feelings of latitude and languor while want of currents of air, and the hardness of so much moisture retains the Malaria. A few natives may be seen located on the sides of these hills. But they are subject to intermittent fever and occasionally to remittent.

But the visible living inhabitants of such localities are confined to props and snakes. The first are met with in innumerable numbers, the latter sometimes attack great size, as...
the Python or True Crocodile which I have seen 30 feet in length— In these we may add the Snipe in their season. Wild Pigs are occasionally seen, and even more followed by theiger, but all these animals retire at night to the more elevated jungle around— In such places Drizzly fish decay with great velocity, as there are no trees to prevent the heat of the sun, and there are just sufficient currents to prevent the fish from escaping the decay— As much of the woody fiber is immersed in water, we have carbonated Hydrogen and small quantities of carbonated Hydrogen as additional products. Until 1842 no European had lived continu¬ed to any of these islands and very little was known about their salubrity— Indeed it was taken for granted that at Singapore Town the surrounded by barked subject tidal influence was healthy & most all the islands be— In 1842 wishing to reside myself with planting coconut trees for the and other agricultural pursuits, I undertaken effects of a forty about 200 acres of ground and built a suitable house Bungalow on a hill 6 miles from Town— March 1842— And one mile from the sea, with a broken valley to the East and South East— The forest jungle behind— I had not reached at a month, keeping there only two nights weekly, when I was attacked with intermittent fever of so severe a type that it did not leave me for months— My Brothers who occasionally slept there were similarly attacked.
attached, but the fever with them was of a milder type. At the base of the valley a mile or more from my dwelling, I found a house erected near the seaside. They, like myself, only slept in it two nights weekly, and they all got intermittent fever. Such an isolated fact as fever being endemic in any part of the Island induced me to institute inquiries amongst the natives of the village of Tiplap, which is situated on the sea beach, but close to the marsh, and I found that the inhabitants were very subject to intermittent fever, and none had ever had remittent fever. I saw scores of fine fruit trees, within which were the remains of houses, on the slopes of the adjoining hills, and on making inquiry ascertained that they had never been inhabited, but fever and Typhus had swept away their inhabitants.

Therefore could this fever be attributed to what cause could this fever be attributed to? The only conclusion I could come to was that it was generated by the marshy valley - for its proximity to Singapore convinced me that in its temperature, currents of air, wind, and other meteorological conditions it did not differ from the Town, which as I said before, is free from fever. I therefore considered that the valley was drained, if the fever depended upon the soil, it would then leave - at that time the Government officials were anxious to dispose of their lands and to induce me not to give a bad character to that locality.
they agreed to make a drain through the lowest part of the valley to the sea. 1½ mile long, 6 feet broad, and as many deep. This had the effect of carrying off all the surface moisture, and soon after instead of a swamp of such a boggy nature that if you took a few steps in it, you would sink several feet, it is now a dry cultivated plain, five hundred feet growing vegetables and coconut trees. Six months after the drain was opened, intermittent fever had disappeared. So that ever since (except in one occasion) those who have resided in the two hamlets mentioned, not for days only but months have not been attacked by the fever, and it is scarce to be met with in the village where it was endemic formerly. But in one very wet season two or three years after the drain was made, fever again broke out in the village of Gjaphi, this examination was found to be caused by the drain having become obstructed. When it was cleared, the fever left, and as it has been annually cleared no similar return of fever has taken place.

A little fever attacked the Enviets, who were making roads five or another marshy valley called Buddoo. When it was drained, the fever left there. From the number of similar instances I scarce to the conclusion, that on draining a fresh water swamp, the endemic fever will disappear, but on obstruction of the drainage the fever will return. I have
I have in the 3d place to speak of salt water marshes subject to tidal influence. This embraces a great extent of the physical surface of the Island as well as the shores of the Peninsula and the neighbouring Coves. In sailing round the island of Tangany.—Very stranger remarks have voiced it is even to the water's edge, so that in high tides the sea may be several feet deep round the roots of the Rhizophora, Mangle and Avicennia. Indentations are also seen corresponding to the mouths of rivers, but so corroded that the streams are seldom to be seen. The depth of this belt of mangrove varies in some places from a few yards to some hundreds according to the amount of tidal influence.

The town of Tangany.—is built on either side of a river which had not a long course but for about 2 miles its banks, and that of its tributaries are covered with Rhizophora, Avicennia and Pandanus. By the junction of these tributaries small islands are formed which are covered with the same kinds of trees, on the fruit of which subsist numbers of Monkeys and amongst their interlacing roots at low tide basked the Alligator. When the tide is not the view of this marsh is anything but pleasing, and the smell is far uncomfortable. Black fetid mould only is to be seen, with very little water. Striking this, the centre of which might be the deep and channel of a noble river when the tide is full.

Sand Banks.
and Banks obstruct the navigation of boats, and wind and sand frequently choke up the estuary. And since it is to find another than that. When the tide is out and the sun in all its brightness pours down, the rays upon it, most fit for the explodation especially after a shower of taine, food also is the sight of it, so that all strangers and many residents imagine such marshes to be most noisome. Yet Singapore. Singapore built is built on, and is surrounded by much on a saltwater ground, of at least a thousand acres, and a more healthy town in the world cannot be found. Where the town is built all the mangroves have been cut down, but the old river tributaries still remain; their sides being embanked, they serve for drain and canals for boat traffic. Along the side of the canals houses have been built inhabited principally by Chinese, who are very healthy and not subject to fever, this to such an extent in the sulphurous fumes evolved from these canals, that all white paint is almost immediately blackened. The old jail was built along side of this canal and the frequent feet, and well grounded complaints, were made of the foul smells, yet in the 18 deaths which occurred amongst 1,447 inmates during a term of three years from 1844 to 1847, not one line from fever. Some thousands of Chinese and Malay live in boats in these canals and in the mouth of the river. These people ...
they occasionally visit the shore, always sleep in their boats. Which float with the tide, and rest on the mud at low water, yet my frequent and most careful investigations failed to discover any firm amongst them. In other parts of the island, the Malays from preference not necessarily construct their dwellings by the banks quite unhealthy. Amongst the Mangroors, they do so also on the mainland, and unless there was a salt-water marsh, or exposed coral reef reaching, I never found them subject to remittent or intermittent fever. This observation of mine of the freedom from malarious influence of salt-water marshes subject to tidal influence is not confined to Singapore and the adjacent islands, but extends to Borneo, Java, and even to Australia. These shores are in many places quite flat with the Mangrove. I may not dispute that in other climates such forests of Khiphius and Cirrínusias produce fever, but we have the authority of Humboldt, Wallace, and many other writers that they do, and I have hippocrene to the contrary, but that such trees and such marshes do not originate fever in the localities I have named. I consider cannot be justified by any who have personally examined such places. In these marshes subject to tidal influence we have the same decay going on as we find in salt water. The wood changes its element. $\text{CO}_2$ is formed with $\text{H}_2$; the Hydrogen of the wood combining with the $\text{O}$ of the atmosphere. We have also carbonic acid and silicic acid. Hydrogen eliminated the latter in small quantities as to be taken...
moistened with acetate of lead, in some places in less than an hour. In the decay of animal and vegetable matter in fresh water marshes, in addition to 5.02, 4.0, and 8.2 N., there is a "something" called Malaria, whose composition is unknown and whose existence is only presumed from its effects, as fever and other diseases. How it acts is equally unknown: it may be organic, inelastic and multiply like cells, or like the ferment of yeast; or perhaps a catalytic force on the fluids of the body and to produce fever. This "something" which is generated in fresh water marshes must either not be generated in marshes at salt marshes, or if generated, there must be some unhealthy contracting force to render it innocuous.

One of the rise and fall of the tide twice in the 24 hours - the second is the presence of sulphureted Hydrogen in such quantity that I venture to suspect it may be the means of destroying the Malaria, for the following reason:

It contains only the proportion of 500th of 1% according to Thoare, and Dupuytren, will destroy small birds. Why should it not when more diluted destroy cell life or that something which is called Malaria? 2nd Liebig mentions that at Tunderburch in cases of poisoning from highly prepared land, where a disease similar to fever produced by infections, was observed. If I were given in water mixed with the poisonous action, 3rd is many situations where 8.2 N. is purely disengaged in and around Singapore. The salt water marshes are
are successful, while in other situations,
where no J. I. can be detected at the port of
we have R. D. and J. exposed from the effects of
which I have examined, fever is endemic.
Again, many who have landed at the most
unhealthy parts of Africa have testified that
the crew of ships visiting in the bay and
water of rivers, steeped fever in hide situations
from storms; but boating parties who
attended the rivers above tidal influence
were attacked by fever.
Capt. Baily in his Narrative of the Surveying Expedition to
the coast of Africa exemplifies this statement
for he says, "That amongst the crew of first
vessels, there was not one who had not been
employed away from the ship, they were taken
from crews who had been up the rivers, or
those who at different times had lived at the
Observatory."

Whilst such
situated at Singapore and the adjacent
islands, are actually of great size compared
with the small streams that are joined into
them, they cannot be for the above reasons
comparatively free from malarious influence,
as well as many extensive sea board, where
the large rivers open into the ocean, but do not
protect Mangrove Marshes subject to tidal
influence. Such is not the case
localities where we have large rivers that periodically
produce extensive deposits of mud, and
produce on the
healthy side barrows or marshes filled with fresh
or brackish water, which tend to contain
and can only dry by evaporation. These we
have since formed. And that frequently, if

a most
a most concentrated character - as in Mopey,

giving rise to intermittent fever. But chiefly

of this intermittent type in latitudes near

Singapore, as in the East Coast of Sumatera

He now
come to the last subject of this section

The influence of exposed Coral Reefs on the

health of those living near them -

I was a resident in Singapore for several

years without witnessing any case of

intermittent fever arising from malariaous

influence in the island - indeed in the

course of 18 years experience, I knew only

6 cases of this fever having attacked Europeans

which had a local origin, and they could

all be traced to exposure to the influence

of fresh water marshes at some distance

from the Town. This corresponds with the

experience of my fellow practitioners, and

inspectors. In the Public Hospitals

90 per cent. of those admitted for intermittent

fever, were shipwrecked crews of vessels, who

had received the infection elsewhere. It consists

who had been employed at an adjacent

island. Intermittent fever has also

a rare complaint amongst the residents

in the Town and even amongst the insets

who were employed in cutting down jungle

and making roads. The mortality was little

more than one per cent. of those attacked.

so that in my opinion the town and country

of Singapore were singularly free from fever.

But truth is not the same with the adjacent

Aleutian island, just alluded to called Kolotchina.

Kolotchina
on which was formerly a signal station, remarkable to which was attached a European interpreter in its service and Convict Assistants. The signal
station was removed on account of the great fever. Mortality from fever of so many inhabitants and convicts, that treatment at last could not induce free men to visit their sick by going there. The natives, who were the greatest native traders in the land of the
Eastern Archipelago, had located themselves at the foot of the Flag Staff Hill, but most of them had died off, and the few remaining were sickly objects, with enlarged spleens,
leucosplenitis, and continually afflicted with intermittent fever. Three houses on a precipice running a few yards into the sea, on which 12 Chinese were lodg
who were engaged turning coal for Foster of these 12 died, and the remainder returned to Singapore. Such extraordinary mortality surprised me, nor could I account
for it, for there were no fresh water streams near, and the strip of land on which the houses were built was so small that it was impossible it could have generated sufficient malaria to cause such mortality, since if it had been a month, which it was not.

At length, the Medical Officer attributed the fever to causes of the decomposition of pine apples — but that I
found could not be, as other islands were covered with pines, and their inhabitants were healthy and were on this same
island were many houses surrounded by pines, whose inmates were healthy.
At length about 13 years, on landing at this sickly spot for the purpose of investigating the cause of the fever, my boat could not approach the beach on account of the tide being out, and I had to walk over an extensive coral patch which was exposed only at low water. I noticed that it was extremely disagreeable effluvium emanated from it, and as the delicate coral crumbled under my feet, the thought struck me "Why should not the decomposition of the animal substance in the corals, with the vegetable matter on it, cause fever, as well as the same amount of animal matter on shore?" In further investigation, I found that the patch of coral was of great extent, and for several hours daily was dry at low water; from this a most disagreeable smell emanated, such as prizet animal matter alone will give forth, with something peculiar to its marine origin, and when the wind blew during the N.E. monsoon over the reef towards the inhabitants on the beach, few were always alive, while in the W. monsoon they were not so subject to it. As the wind then blew over the island towards the reef.

I also remarked that in the change of the monsoon, when there are alternate hours of rain and sunshine, fever was more prevalent, notably from the greater formation of the coral exposed by such weather. Other islands also afforded me strong proofs of the correctness of my conclusion, where exposed coral reefs are present. The is...
more or less Malaria is generated."

In pursuing my investigations I found that
true localities subject to the same influence
of local reefs exposed at low water, might differ
from each other in the incidence of the endemic:
for instance in the island of Polukan Mata
we have an exposed coral reef in front of a beach
that is only 80 yards in depth, and behind it
a hill of 300 feet or rather more in height, sided
almost perpendicularly — The consequence is that
ventilation is very imperfect, and the Malaria
rafted on the one Monsoon to the island from
the reef, seems to fall on the houses below the hill,
and in the other monsoon the hill by preventing
the access of the wind to the beach creates a
wall which keeps the Malaria in situ.

Other islands again have no high land and
the Malaria generated on the reef is swept
away in the trade — Even high jungle
will prevent the diffusion of Malaria, and
will cause more sickness amongst those
located between it and the reef. Where it will
prevent also the Malaria passing to distant
ventilation beyond it — Ventilation is
all-important therefore all important; — if it is imperfect, no
fever will exist as an endemic; if imperfect
even little Malaria even, will produce it —
I therefore came to the conclusion "That from all
coralline local reefs. Malaria emanates, and
the diffusion of the Malaria depends onfavor
non-diffusion from want of ventilation; for
it may be modified by solution in the
surrounding atmosphere. There when it reaches
a ventilated locality it is innocuous, as
"A drop of sulphuric acid will burn when concentrated, but if diluted will lose its effect."

This applies to many parts where coral reefs abound, but where the ventilation is so perfect, on account of the trade or other winds continually blowing on them, and leaving no high land or jungle vegetation to obstruct it (these being little more than a few feet above the level of the sea), that no bad effects are produced by the Malarias which the reefs encourage. As in the Coast, and many of the Pacific Islands.

This cause of fever will alone account for that of many islands near Singapore—Matavia and six other places, such for instance, as the Harbour of Batavia. From time to time this haunt had been looked on as one of the most unhealthy in the world. Few ships anchor there without their crews being attacked with fever, especially if their ships were hove down at the island of Mentut, then at least two thirds or half of them, perish from intermittent fever. In 1849 H.M. Steamer "Bromo" while anchored at Mentut, with a full complement of 150 men, had 116 laid up or dead from fever. Eden, Tonga's islands, and others are equally unhealthy, but not being as much frequented are not so well known.

The health of Matavia and the shores near it, there is looked on as a fever endemic, identical in its character with that in the Harbour; yet I consider it the cause is different, for the following:

The Harbour
reasons. 1st That vessels anchoring 2 miles from shore are comparatively free from fever, but those anchoring near 3 miles off, and close to the island of Tanna, are very subject to it. 2nd. Vessels anchoring under the lee of Tanna and Tanna Island suffer more when the wind comes from the sea and blows over the islands. Than when it blows from the town of Portia. 3rd. The European residents by living about 2 miles inland from the town, are almost free from fever, whilst vessels further distant have their crews subject to its influence.

In 1809. The English landed at Portia and four ships of war were anchored in the bay. The "Brave" was at anchor, and very soon, nearly all her crew were attacked by fever. The "Centurion" believed her, and her crew shared the same fate. The Commanding Officer thought the island was unhealthy from the proximity to a sand bank called Everton Bank. The ship was 3 miles distant and he ordered that the men should be taken from the hospital at Tanna to the built on a small island called Ednac, 2 miles distant from any point of land, but the mortality did not diminish. 68 soldiers who were landed as a guard, 31 died at Ednac, 22 at sea, and 7 were taken to Malacca Hospital. 13 marines from the "Centurion" 13 died.
and nearly all the sick transferred from the Hospital at Barbst including the Surgeon and 9 officers—The loss of the Leman is not given, but it must have been great. Many of these cases of fever were contracted at Brest, but the majority at Edam—For some were 30 days there, before it broke out, a length of time far exceeding the usual period of incubation—showing that the fever must have arisen from some cause in the island of Edam, as it is ridiculous to suppose Malarias from the mainland could have traversed 9 miles of sea, putting over vessels anchored immediately without affecting their crews—For instance H.M.S. "Pedalus" was anchored halfway betwixt the town and islands, and the crew escaped fever, with the exception of 2 officers who slept on shore—Mr. Brooke Shields, the Surgeon, who reports this mortality describes Edam as "a small island three miles from the main, well cleared of trees and jungle, nearly flat and free from swamps and marshes, except one long strip which however isdaily covered by the tides." Edam is described by Captain Leigh as a friendly Island who treated it well, as his Island about 10 miles from any point of land, a mile in diameter covered with trees and bushes, but I never saw a swamp.
"Island, it appeared to me to be dry; the
soil is a mixture of coal, stones, and
coarse sand." Both islands are
punged with coal partially exposed at
low water, which I consider to be the
cause of their existence four. — The
following two facts above would be
sufficient to convince the most sceptical
of the truth of this — T. Johnston
a Graduate of this University who has
for 15 years practiced in Patagonia inform
me that a few years ago the Dutch Government
attempted to construct a dock at Puerto
but such was the mortality amongst the
native laborers while operating the
dock, that they were obliged to give it up —
Captain Lewis informed me that in 1838
he went to Ordin to take in coal as ballast
for his ship. — Six days after, all his
crew were taken ill with fever, from which
two only recovered —

Passing from Patagonia, we have the same
fever arising from the same cause, in the
islands of Lombe, Waali, Lamhawa, Timor,
Aces — In Timor there
is the Portuguese settlement of Velii, well
known to be the most unhealthy spot in
the East. The harbour is formed by coral
reefs of considerable breadth which extend
along the shore at the distance of 1/3 or 4/10
mile from the beach, the intermediate space
having sufficient depth of water to afford
 anchorage for vessels of the largest size —
The reefs thus which there are two narrow
Channels
channels, dry at three quarter o’clock, and therefore remain exposed from 3 to 4 hours at each change of the tides, that is to say, twice in the 24 hours. No Port that I know of, has so much exposure of local sun, and so little ventilation, and there is no Port where Remittent fever is so persistent, or so deadly, as this—

This Theory applies to other parts of the globe, and will account for the fevers of the Andaman and Maldives, Madagascar and its islands, Zanzibar, and other parts of the East Coast of Africa, many of the West India Islands, and parts of the East Coast of Central America, for instance Captain Monroy, in his Naval directions page 37. Thus describes the "Mall Stoll" of the Maldives, "The instability of the climate is particularly injurious to strangers, either European or Native, and the latter feels its effects sooner than Europeans," yet there is no swamp or decaying vegetable matter on this bare island to account for the fever, leaving only the local sun to do so.

The latest British Settlement is that of Fort Blair in the Andaman. This is fixed upon by a Committee of three persons, two of whom were eminent medical men in the R.S.S.O. They selected Fort Blair as apparently the most eligible and salubrious spot, and more free from Marshes than any other on the Island, which they most carefully examined.
examined, but they overlooked the Coal Reef in the harbour — and the mortality amongst the convicts has consequently been fearful — the fourth of them died during the first year.

If such a cause of fever had been neglected — either this Harbour would not have been selected, or if so better place had offered, instead of clearing the Jungle close to the back for the settlement; they should have left a broad belt of trees, which made the clearing at least a mile inland; which would have protected them from the Malaria of the Coal Reef that surrounds the islands in the Harbour.

I will conclude this first division of my Thesis, by giving a summary of my observations on the climate of Sumatra, which lies between lat. 5° 45' N. 5° 35' S. and long. 95° 20' E. and 105° 40' E., about 1250 miles in length and 60 in breadth. It lies to the south of Eastern Asia, the shores being washed by the Indian Ocean, Straits of Malacca, and the China and Java Seas. It has three descriptions of Coast, the Climates of which differ, as well as their produce, while the interior differs from all. The East Coast, the North stretching from Diamond Point to King's Point, is bold face and rocky, its Climate is Salubrious — Fever is not prevalent, and when met with, it is of a mild intermittent type — The Produce is Sultain Nut. The West Coast extends from between Head to Flat Point, and is fringed with Coal Reef — here Fever is very
so very prevalent, of the Remittance type and very deadly. In parts of the coast which are not pitted with the reefs, as at Patean, it is healthy - but an island called Page, 4 miles from that town, is pitted with leads, and where delicate live under its lee, their crews are attacked with fever, as happened to the crew of the Schooner "Val" who came under my care - 10 men out of 12 having been affected - the produce of this coast is Pepper.

The South and East Coasts have the same character, being flat and marshy, with large closed intertidal flats, and emptying themselves into the sea. In these coasts, fever is common, but not as deadly as in the West coast, and the type is intermittent. The province of these coasts is Bangladesh, and its vegetation florid, to low and swampy ground.

In the interior, we have a country where beauty and productivity are blended together. Cattle from its towering mountains and silvery streams, rich in the fertility of its bays, its vales teem with life and abound in pothol. Its protected an atmosphere varying according to the elevation from a little above the freezing point to the pleasant temperature of 60°.

From the accounts of those who have travelled in the interior and of the others who have resided there, the climate appears to be salubrious and bracing - and the only present disease is the great valley.
surrounded by hills, where the jungle had been cut down and the ground allowed to become swampy, for the cultivation of rice. Its produce is from Benjamin and Tuta Jureh, while Gold and Ivy are largely exported.
On some of the Diseases of Singapore, and their Treatment.

To attempt to describe all the Diseases to pass with, would greatly exceed the limits of a Volume: it will therefore be my endeavour to point out any peculiarities I have noticed which Author have not described, in the Symptoms and Treatment of Diseases of Tropical Climates.

Fever in Singapore are of Three Classes viz. Ephemeral, Intermittent, and Remittent, in all of which the type is intermittent. In the former the patient will have the symptoms arising not generally from Malaria, but from Alternations of Temperature. So frequent a Notion, will be sleeping in the open air, and will perspire in the early part of the night about three to four o'clock until about three o'clock the body will be chilled, and Ephemeral Fever will result. The Fever is also brought on by exertion of mind and frequently hangs about those who have had Intermittent Fever.

Treatment: Favourable. In one year, 159 cases were admitted into the Hospital, 96 died, and all recovered.

Thermatism given by the Constrictor of Armenti, 0 used of three drops every 6th hour in a wine glass of water, to Adults, and of one drop to Children under 8 years of age. This has generally suffice to all. Thermatism Formerly followed the usual routine of Practice of giving Diaphoretics and Diuretics, but these were more disagreeable to the Patient, and did not afford such
Intermittent Fever is the type of our Eastern Fever, and in its acute and recurrent form, is the result of Malaria, or from the decomposition of animal or vegetable matter. It is not uncommon that without Malaria, alternations of temperature can produce it; for when symptoms from such a cause do exist that simulate Intermittent Fever, they should be considered similar to the chill and fever of an abscess, or what occasionally follows the passage of a bullet, as they do not occur with the periodicity of Fever from Malaria, nor locally affect such organs as the Spleen and Liver, but the fever customarily recurs, and they become so permanently if these the Spleen is that which is most frequently affected, and the Malayse have recognized the Fever by its local affection calling it Diman Koro "of the Splendid Fever." Next in frequency of the organs affected is the Liver, and the Bowel, the Brain and LASTLY, THE SPLENDID CHORD.

IN the cold stage these organs are affected, the Spleen enlarges, in the right. In the abdominal region there is a sensation of coldness, the head aches, and a chill is felt down the back, and a freezing, gnawing from extending to the thighs.

In this stage there is an increase of noise in the lungs, the thorax.

The blood is not agitated, there is less contribution of the tissues, hence the cold...
The hot stage follows and the patient is re- 
heated when the operation of daily takes place.

First stage. Favourably in 100 cases admitted 
into the Sheds and Hospitals. Only died.

Treatment. At the clearing stage invariably 
removes the fit for the time being, the effect of the 
medicine is to bring it off, and whether it 
possible the cold third stage, by the use of warm 
clothes, hot drinks, poplar broths and in 
least by quinine, an emetic. In some cases 
when the headache becomes severe, I have 
apply leeches with much benefit, and hot 
or cold of the head, according to 
the feeling of the patient. For the pains of the 
back and knees, dressing is most gat 
ful and effective. When there has been great 
convulsion, the inhalation of chloroform has 
been attended with immediate benefit. The 
fit being over, the object of the medical man 
will be to prevent its recurrence, and 
the 2nd attack is uncertain. I have been in 
the habit of giving quinine, the remedy for 
the complaint, in three grmas dose every 4th 
hour; when I have ascertained that the 
attacks has returned about the same hour 
as the previous one, I know that the 
third will likely occur about one hour 
later. I do not therefore dilute the 
quino as the interval, but give 
more grmas in these doses, as short a 
time as possible antecedent to the expected 
arrival of the attacks. This seldom fails 
to arrest it. The same is continued for 
three successive days, and if there is no
return, the Patient is safe for that month; but next month about the same age of the worm, perhaps a little earlier. I send the doses of running or the River will return, and do this for three or four days, for three or four successive months. If this treatment fails it is from one of two causes. 1. If an organ, as the Spleen or Liver is affected, and found that the cause which originated the Fever is still operating. If the Spleen, to the cause by its enlargement, the treatment I have found in all efficacious was first to suck and apply the Blister over the organ and then to administer the following nauseous but efficacious mixture.

W.C.

Velti. Khei
Velt. Salab.
Sip. Port. Vitae tea 3f.

Adulc. C. Album.
Digit. Chingil. 4r. 3f.
Salp. Pinn. n. 9r. 3x.

Ag. Bovis. Nitr. 3x. 3x.

Ag. 3x. Take two spoonfuls to the patient every morning and repeated at 11. AM, if the Bovis have not been acted upon. This treatment is equally applicable to congestion of the Pyle. If the head or nose had the part affected, a Blister was applied.

When the second cause or Malady, is still in operation, the only reliance for the Patient is at this Stage.
Kemilast Fever.

(Batara Fever, West Coast of Annam, Asul, Fowl River, and Dimmu Keupale of the Malaya, are all synonymous). As this is one of the most important diseases affecting European vessels in the East, I will enter into a few particulars regarding it.

It is seldom that the individual affected with the Fever exhibits the characteristic symptoms immediately on being exposed to the exciting cause. From what I have seen and learned from others, this Fever takes from 3 to 9 days before it is distinctly developed, but almost from the first the patient has an intolerable and unsatisfying affection. Then he feels the heat of the body, and he frequently is disturbed with bad dreams, but after three days' incubation, a slight headache will be complained of, with occasional rigors, pains in the small of the back, the thighs, restless, slight sighing of the chest, the countenance becomes more and more depressed, the eyes appear drooping, and his breath becomes, or is inordinately fast. The patient seldom complains, on being asked how he is, the leastivable answer is 'very well.' On more searching inquiry, the complaint of quick perspiration, and chills, perfect indifference as to his fate, but with time these last assuage. The pulse at first is not much changed, but
as the Fever advanced it died to 110 or even 112. 

sweat full and burning, but small strap and compressible, becoming more as the Disease advanced. The tongue is generally dry and brown in the Centre. The appetite diminished if not gone, and there was thirst. The Abdomen generally flatulent, is sometimes much distended, and is generally ingurgited. Up to this time the Patient if a Man will have dry his coat, lasting with spirit, and if he complain'd he was put down by his Officer as "sick," and may a Man has been brought to me as such, he had been to the 11th hour of his death. A slight tumour may take place, the pulse falling to about 100, the tongue becoming flaccid, and the heat and Pallorness of the body less, but if the Fever is unchecked the amination is very transient. The symptoms increase in force, the headache is constant, at night, thirst is often Petulence and shortness of breathing, the tongue becomes dry and even with altho' cold, the lips are dry, and the articulation is indistinct, the con- tenance shows more of the peculiar anxious cast, the eye is more sunken and has lost its brightness complete prostration follows, the pulse seldom fails below 120, and its threatening, and often intermittum. The skin is still dry, and tough and sometimes assume a white face, probating considerably收受

Outspron May be position. The Patient can still be, stultified by loud noise and if asked how 
he is? answered, "Have you any pain?"
This fever is not endemic in Singapore: the cases admitted into the Hospital have been the result of ship-borne sickness of seamen who had worked on the adjacent island of "Pulau Drat," where they are fishing for coral reefs, exposed to this trade. However, within the last 40 years, cases of some "_humid" fever, have presented themselves arising from malaria produced on the island, and of these four died. The mortality in any Public Hospital, amongst those who have brought the Disease with them, from other places, has not been so great, about 90 per cent. In the Public Hospital out of 47 cases, 9.5 died, of which 6 were Europeans. The chief Causing the great mortality is such as conduct to all countries, to the favourable reception of Malaria parasites, and need must be discouraged. The existing areas, for example, a small village on the island, from Marshes, exposed to coral reefs, jangle, that have been cut down and not cleared, and grown newly turned up, but the following must be noted:

The island, especially where there is jangle, a salt marsh, and the adjacent islands, whether of a highly or marshy nature, are particularly affected. The writer is prone on the contrary, that the island is only unhealthy where large plantations themselves, or where there have been felling before.
short time Py of the group. Pouces of Saltp.

to procuring two copies, ploot, all ay.

afforded relief. If the head was affected.
The Quinine was still given to both, with
the Colonel, but a blister was also applied
in the wake of the order while cold clays were
applied to the top of the head. The blister
was given not to destroy salivation but to
prevent the action of the Quinine on the head,
and to promote a face discharge of Pur which
in several instances I have been critical that
is to say after a violent motion resulting from
the use of the Colonel, the patient has almost
never directly lost the frontal head ache, the
feeling of weight, pressure or the usually the expec-
tation has improved, and the patient become moist.
During this time the patient also is forbidden
when rice water seasoned with a little salt will
be found most grateful. Then tea and black beef
soup. Solid food is unfit for the patient and
I have received diverse accounts of a release as
the result of a dinner on roast chicken. During
the short duration of the disease the convic-
tion of the disease has been great, and the pa-
thent with he lives or dies is fearfully exaggerated.

During convulsions great care must be taken
of his diet; wine ought to be given when the conv-
ulsions threaten; it has done more harm that
in my practice; but owing to the fact with which
is great shortness, Wine Viennese may be given
as much hence but with little prospect of it.

Why not give wine from the list of recipes the
opposition of strong? If it could, I would
administer it, but the opposition of Physical forces
is not so much the result of muscular weakness and consumption of the blood as the effects of the disease. As the activity of the nervous system, when the fever and delirium are the principal with the feeling of fever, that I have never found to follow hemorrhage, unless given indiscriminately: attention to biliary motion and food preservation will do more to remove the feeling of putrefaction than full and stimulating diet.

Pathology

As this I can add nothing to what has been written, I have examined many bodies, without being able to satisfy myself what was the immediate reason that caused death; for in many I saw nothing abnormal; but with more correct powers of observation and the assistance of the microscope, more could be done.

Cholera

The worst disease of the Symptomatic Class on which I have a few observations to make is Cholera. Within the last 20 years it has visited the Strait settlement three times as an epidemic; the first was in 1841 the 2nd in the latter end of 1848 and the third was in 1854. During these epidemics I noticed that influenza or a purulent state of the alimentary tract attended with local irritation of the mucous membrane of the nose, parotids and lungs preceded the worst fever and all were precipitated by slight cases of diarrhoea, not conform to those who were subsequently attacked by cholera, while the epidemic lasted many cases were treated as such, which were actually cases of diarrhoea without any fear. In 1854 the native population suffered greatly under the 3000 of the European and Chinese took sickness according to their returns many Malay perished, but a class of
...the sound of Europeans who lived within a few yards of their masters. Hence one who lived in the same house was attacked with the Cholera. Yet not one European escaped, for the body of the sick and dead were dragged and all died at once. Some who were shipwrecked and died, some disappeared. The idea of the Chinese was that all of these Chinese were others of the crew destroyed. In another Epidemic, the Europeans were not affected and only a few seamen were affected while living in the miserable log huts of the water. So what is the community of the part of the Europeans to be accused to their vitiated, weak constitution? The reason I should assign as most likely for these symptoms was because the probable presence of sugar, and their intemperate indulgence in alcoholic liquors. The fact of the community of the European resident during an Epidemic of Cholera is most important in the etiology of this complaint, and ought to be taken into consideration among the preventive measures on the approach of the Pandemonium. In the treatment of this complaint there is little evidence to be found in the medical works of Europe. When they have given instructions, they have advanced. But towards the end of the last epidemic on exercising the pathology of the complaint...
and believing it to be the result of Typhoid fever, evolved on the great river Main, producing such a diminution of the count of the white blood cells in the blood, as to permit of the escape of the liquor amnionis or amnochyme, which mixture with epithelial cells from the nerve endings, that the collapse, and death are the result of serious hemorrhage, and that in some cases, death may result from the primary injurious to the great epidermal centers without the serious disease. Having poured upon it that no internal hemorrhage or hemorrhage, there was no pain by equal to the surface, I thought of trying it both by the mouth, and by the anus. By the mouth I gave it frequently in 3 or 4 doses mixed with Brandt and the whole of an egg cavity hours at first then every two hours and last every six hours and after the anus it was administered in the following manner—

N. vitellii. Ov. (iv. 17)
W. selenithrichiae (v. 6)

Sp. 14th. August. Here is 5 x 414 97, 10

One fourth of this to be injected into the great intestine by a stomach small tube every 5 hours. While this was being done the patient lay on his right side, the tube was warmed, great make very flexible, and was carefully introduced about 2½ feet into the great intestine after the tube was extracted the nurse were kept together for some time. After a while especially after the face was extracted. During all night the Philadelphia was rubbed with tobacco, hot applications were used, and over the epigastic region a frequently blistered with spirits
Ammoniac applied by means of a piece of lint, covered with oil-seed or Quassia, &c. This was a treatment I found very successful than any I had tried, but it will not give it forth as a cure, for it is a specific of Nootka, as fully concurred it towards the end of the epidemic, when any Roy of treatment would have been more successful. Take at an earlier period, it secondly the number of cases were not sufficient to conclude one of its undoubted efficacy, but that it was superior to any other treatment was my impression, and I submit it to the criticism of my superiors.

The epidemic diseases in the straits are nearly all of a mild nature than we have in this country, with the exception of Small Pox. The Diseases are variola, variella, and small pox.

Vaccination has not yet appeared.

In regard to Small Pox it is the great cause Small Pox of the natives, it is just exterminating the Malaya, so that if Government are desirous of preserving that race, compulsory vaccination should be extended to the Eastern Settlement. In the adjoining island of Java the Dutch have for years compelled all natives to be vaccinated, and the Malaya of that island have increased since the English left it in 1871, from 14,000 to 17,000, while in our settlement they have increased a little, but the reproduction as in Java but by immigration. Not being brought as to much as seems to assume that palatable character it deserves in this country. On the whole, the climate of Singapore is very favorable for infants, comfortable and it is frequented.
Desire of all parents, that their children should have the diseases before leaving a colder climate.

Affections of the mucous membranes are more common than in a temperate climate, with the exception of those of the Lungs, Kidney, Stomach, and Larynx. The origin of irritation of the mucous membrane of the throat and nasal passages is a very common affection. It is produced most frequently from dilution of the throat or from the draught of a drink, and in some cases the Lava ino, or the winds from the East, which blows from the coral reef islands. This is a most poisons affection but its treatment is simple, either the brisk saline purgative, or a full dose of Morphine on going to bed.

Diphtheria. Towards the end of 1836 or commencement of 1837, Singapore was visited by an Epidemic of Diphtheria, which had travelled from Calcutta through the Jessoucarin Province to Burma, Malacca, Singapore. It presented the usual characters of a broad false membrane partially covering the face, and a slight edema of the whole face and a loss of the powers of assimilation. In the Shops Rehersel, many died in these countries, in some instances whole families were swept away, & lost at first a few Patients. The plan of retreat I found most efficacious was the application of a solution of nitrate of silver, nitric acid, and water. If the patient was old enough, I have ordered him frequently to inhale the steam of hot water, & dress of Hydrast.
Deal with Rules. Pierre was quiet at bedhead. A purge of Pharaoh's twist and absinth of Pharaoh with the morning, so as to produce two or three motions that were often very full, after which I gave the solution of the Longe Nitrate of Silver in doses varying from 1/2 to 1/4 of a grain, 2 to 3 times a day. The treatment was frequently administered, in some cases introduced by the anodyne. This was very successful.

I, however, frequently used milk, not as a purga

The patients resided among the Typhus,

The resident is not the effect of any

The majority of cases is produced by alterations of

Temperature, checked perspiration, excess

in diet & disease of the liver. The latter is a very frequent cause for an acute jaundice of the affected, often blocking the efferent bile ducts to the Peritoneal. The jaundice to the Peritoneal of the left side will cause pain indicated

an abnormal state of that organ. In many cases of Typhus, Patients commenced

with a purgative consisting of Colonel

of Dover's Powders at bedhead, as in the

following prescription


\[\text{Fleb. M. Hyd. q. vii.}
\]
\[\text{R. Phy. q. viii. vel x.}
\]
\[\text{P. Gent. q. v.}
\]
\[\text{H. Gent. q. v.}
\]
\[\text{It was at die, in pile. G. H. S. D.}
\]
Putr. Salak. 247
Ag. Muck. Pep 3.9.11

Strictly to be taken early in the morning.

Very little more medicine is required in Piarakan
except perhaps a little Brown Powder at bedtime.
Three times daily, a teaspoon made of
Rose Water, the fresh Pulp, or preserved
fruit of the Caille Nanaelas Called also Mad Fruit
and Wood Apple. In general it is taken as a
daily beverage in the form mentioned,

where these ingredients, act as a slight
laxative, but in Piarakan, where they act
as a strong

purgative, without being too stimulating.

In ordinary Piarakan after a purgative or
other medicine is required, then the "Mace",
and it powerfully assists other medicines in the
cure of the severe pains of Piarakan and Pia-
dyentery. But great attention must be paid

to Diet which should be nutritive easily
to be digested and by no means bulky:
meat, fish, fruits are positively injurious.
Far better Food in small quantities with
milk, i.e. the essence of beef, are all that should
be given. Perfect rest in bed enjoined.

In Piarakan, in addition, I give three
large doses of Ispecuqunaka made into Pili
every 3 Hours with the best effect. Sometimes
apply lectures over the back of heermelle or
the sores of the parts and always flicker
over these parts.

There is an elevation of the septum within
an inch or two of the anus, which often
tieves practitioners as it is attended with many of the symptoms of Cholick Peculcery, especially of the "Filthness." A digital examination can often detect a disorder, the blood that passes is not to much mixed with the feces as in Peculcery, but it comes out and is seen in the lip of the patient. In children it causes Diatelys and its treatment is most simple 10 yrs of Potash of Silver Dear 
Boke in 2 of water, half of which is to be ingested night and morning, will cause a few doses suffering, and allev the complaint. In this complaint not the frequent abnormal state of the liver Hemorrhroids are a very common complaint with Europeans, so frequent that if I knew it would affect two thirds of the community. The ordinary practical, it is often difficult to decide on the proper mode of treatment; excising is never requisite, the patient to be confined to the house for some time, and are not always free from danger. The application of Cholick externally is slow and troublesome, and in the case of internal Piles as is attended with great pain. To avoid pain or the enema, the warm of bismuth is used it and at the same time effectively remove the Pile. I have originated the following mode of treatment after a careful consideration of what a Hemorrhoid was.

The patient having had his bowels, heat, force,

rated upon was required to press out the Pile of internal, if external I grasped it with my thumb and forefinger of left
hand is to dislodge the lower part of it. To lighten the work, when I introduced a narrow, sharp-pointed curved instrument, so as to reach the root of the pedicle. If one or two revolutions divided the vessels as they passed through, or taking out the pedicle a little blood flowed, the file was squeezed, so as to extract as much blood as possible, a piece of lint, fillet, or your points and made to dry by rubbing it on a piece of moist-red wine. This was now introduced through the opened mouth of the buccal gum: the root of the pedicle, when it was detached and withdrawn, a piece of lint was applied, and nothing more was required. For two or three days, a slight could be pulled out, when the pedicle swelled up, and the patient was essentially relieved. I have not known of such a mode of treatment to be applied to hemorrhoids by any other surgeon, but I am sure for its success having now practiced it for 30 years. One of my first patients operated on in 1804 is into the head of a large. Meanwhile grew in London, and since has not been troubled with this complaint, though previously it had affected his health very much, and so engrossed was he in business, that he could not spare a few days, considered by me as that time necessary for the re-union of the pedicle by ligature or excision, my last operation was upon a lady who slipped in 1805 at Singapore, on her way home from St. Plan. She was in her 6th month of pregnancy.
and much afraid of a premature confinement, owing to the great contraction of the uterus produced by the irritation of the hemorrhoids. I performed the operation as described, the girl little pains and no subsequent annoyance and was effectually relieved of this troublesome complaint. With the exception of affections of the mucous membranes of the orifices passages all diseases of other mucous membranes as the Oesophagus, Stomach, and the various urinary organs, the intestine, etc., etc., are apt to assume a chronic state, difficult to get rid of, in the cold and dry climate of Singapore; Suspect I have known a simple generosis which resisted all treatment, and only removed by a change of Climate.

Bilious of the Respiratory organs are very rare in this climate with the exception of Hong Kong. The following table which I drew up some years ago, favorably contrast Singapore with other Countries.

<table>
<thead>
<tr>
<th>Location</th>
<th>Cases</th>
<th>Fever 1% 25% 50% 75% 100%</th>
<th>1% 25% 50% 75% 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandakan Borneo</td>
<td>1/3</td>
<td>38.6 1 in 18 1/2 1 in 25-3</td>
<td></td>
</tr>
<tr>
<td>Kuching</td>
<td>1/6</td>
<td>36.4 1 in 32 1/2 1 in 65 1/2</td>
<td></td>
</tr>
<tr>
<td>Penang</td>
<td>3/5</td>
<td>37.6 1 in 63 1 in 63 1/2</td>
<td></td>
</tr>
<tr>
<td>Malacca</td>
<td>2/3</td>
<td>35.3 1 in 22 3 in 30 1/2 1 in 14 1/2</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>1/9</td>
<td>38.7 1 in 58 1/2 1 in 57 1/4</td>
<td></td>
</tr>
</tbody>
</table>

From this we see that in 13/6 Patients admitted into the Hospital at Singapore the proportion of diseases of the lung to admissions was 1 in 25, of which 1 in diseases of the Respiratory Organs, 1 in 5, 8, 1 in 7.
of Philippine adumbrations. In a warm热带 climate like Singapore, where the nights are generally cool, the refreshing sleep can always be obtained by the healthy, with ease in the mornings. In the evening, for exercise, the appetite is good, and the food can always be assimilated, hence tubercular degeneration of the tissues is not a usual complaint, when such a state does occur, the lungs are not the organs affected, but those which the climate has over-burdened with work, such as the liver, through its indications, mostly the skin. While this climate is believed favourable for those who are predisposed to diseases of the lungs, consider it to be the last place that ought to be sought by the patient who has Phthisis in an advanced stage, owing to the relaxation which the continuous heat produces cannot fail to produce, while the weak state of the patient precludes him from taking active exercise indispensable to health in this Climate.

In Worcesters dispersed of 258 cases of Phthisis, 68 died 1 in 3.8. Birmingham died 5.8, Singapore of 400 cases of Phthisis 40 died 1 in 10. These 40 cases were all distant residents from their ship's in the last stage of the disease. In the course of nearly 20 years practiced flu of death 65 of Phthisis in Europeans in whom the disease originated in Singapore, there were two sisters who after having had several children very rapidly were afflicted with the symp.
Pains one went to Great Britain and he had the other remains and enjoys pretty fair health. All the other members of that family, except two brothers who were in India, have died from Phthisis at an early age. Pneumonia, Pleuritis and acute Bronchitis are almost never seen amongst the residents; occasionally we have opportunities of seeing these diseases in strangers who bring them to the Port. Diseases of the Circulatory system are not frequent, but not uncommon. These are due to the lungs being less liable to specific disease, and the like amount of mental causes, not being in operation. Indeed, I have only seen one case of Bright's disease among the European residents. Indeed, I have only seen one case of Bright's disease where the symptoms were noticed by the best medical practitioner. This case does not apply to the Chinese, who, from the frequent abnormal state of the urine, have no doubt are affected with Bright's disease, but as yet I have not had opportunities of verifying this observation. The secretion of urine is subject to frequent changes from the normal state, and with the medical habits in two instances I have noticed the variation from the excreta of salt as great as to produce inflammation of the serous membranes, the presenting a difference in appearance, from what is presented in the specific inflammation of the bowels, except that a little mucus
which corrected the Diabetic symptoms and diminished the excess of Heat, believed the symptoms reflected a case. In the class of diseases of the Kidneys there is one not to be met with in this country, nor have I known it described by any author, though possibly it may be.

Acute

It is an inflammatory swelling of the Skin or Mucous membrane, accompanied with fever, according a periodic Eruption, from 1 have seen it commonly amongst natives, especially Chinese, but also in Europeans. The symptoms are

followed by fever, a painful secretion of the

secretion which gradually enlarged by a

the swelling of its extent, so that I have seen it reach the size of a Child's hand.

The skin is hard, smooth, and glossy, red that to the hand, so is described by the patient

as burning, the fever is also most acute,

the patient is instantly prevented from

pursuing his ordinary work, and is

forced to the in bed with a support in the

shape of a pillow, to the enlarged stomach. After some hours the pain diminishes the

swelling becomes less acute, and the patient

feels slightly relieved, when a rigor again

sets in, followed by fever and the symptoms

return, with all their former severity.

It may either terminate in resolution or

sloughing the latter seemed to one of

my Chinese servants who had frequently

relied by me before. Left Singapore—

but this ill suited youth having chieftained

money to the great extent during my absence,
was lodged in jail where proper attention could not have been paid to him, nor a return of his complaint, though slight, the least expected, artificial means being followed, certain symptoms he was found to evince as shortly afterwards he expired. When reinfection takes place there has occurred in one of my patients a transformation of a clear fluid from the skin in the result of spirit nightly.

The exhibition of cabin was found most effectual was therefore to consider the disease as of constitutional type with a local inflammation. In all the patients I found the belly region much enlarged. The medicine I administered was quinine accompanied with a little calomel every 4th hour, with laudanum to counteract the torment.

One of my patients thus wrote me from Singapore on the 3d of February 1860, "I have of late had for 2 or 3 weeks a complaint of my old complaint, but have 'had God' by following your advice got relief in 3 or 4 days of the illness by taking large quantities of quinine and drinking baths from which I derived more benefit than from any other thing and shall always gratefully remember your advice." In this patient the discharge of clear fluid took place in the extent of the print meaning nightly with great relief to his suffering. Shall ever lag to God as before advocated by the quinine. The local inflammation diminished. The part became resorbed. I am happy in the belief that the fever has left his body and observe his perfect health. But the treatment would not succeed the cavity of the print would be exposed to reinfection and the disease will return by frequent symptoms claim for attention. The present time is to be spent by preparing the patient for future treatment.
as to be unsuspected by the patient, whose health was so little affected as not to alarm him. Sufficiently, he induced him to seek medical advice, which, after a slight delay, symptoms of acute inflammation set in, which no treatment relieved. All at once the patient complained of fearful abdominal pain, collapse set in such as is seen in the last stage of cholera, and the patient died a few hours after. On inspection there was found a large deep abscess in the right lobe of the liver, which had evidently been of long standing from the thickness of its walls. After the abscess mentioned, inflammation had commenced, for which advice was sought. The abscess in spite of the treatment cleared the surface, and at last burst into the peritoneal cavity, accounting for the sudden pain, collapse, and speedy death.

All abscesses do not end so, some burst into the liver and if these one half recover, some make their way through the lungs, and one third of these recover, then into the stomach, while others pointing externally either burst or are opened. Whenever I have suspected the existence of an abscess I have discontinued all medicine, with the exception of a slight laxative, and enjoined perfect rest and the finest diet. That was at the same time nutritious, and mixed suited a well appetite at that time, whereas, in many cases, an abscess bursts, other may follow, and acute inflammation may give rise to others before the cure is effected, to prevent this as much
as possible. I have been in the habit of passing a fluid into the side, partly kept hot, and I consider this has been attended with much benefit.

In other glandular diseases only, I should allude to, on account of one of its sympotms and that is Cancer involving the Pancreas and Duodenum, and in one case also the cardiac extremity of the Esophagus. In that case in which the Pancreas was involved, I noticed in the body numerous fatty bodies for the explant of which I could not account. Utley, at the Annual Lecture on the Pancreas, has observed on the experiments of Dr. Bernard on that organ.

In tropical climates, and in this part of the world, diseases of the bowel, skin, and lungs are certainly more frequent than in more temperate regions. The particular diseases I allude to are Delirium Tremens, Intoxication, Fever, Cholera, Cholera Morbus, Inflammation of the Bowels, leading to appetency, and Paralysis. And of these, by the action of fever in pregnancy, where the evident symptoms and their influence of the bowel, vomiting, diarrhea, or nausea, as to require abortion to be introduced, Dr. Bland should undue. In taking a retrospect of my practice for the last 30 years, I am safe to state that most from this class of diseases, by far cure of any patient. For the last disease, Delirium Tremens, I have seen more than | & of the causes. While attention to the Ottawa, depends most upon the climate, Ma
upon error of diet. Stammer, Hydrophobia, and the vomiting of pregnancy, as well as many other nervous diseases, were exaggerated, in their force and the constitutions of the patients were rendered more susceptible and predisposed to be affected by their exciting causes from a false state of their nervous influence, and the result of a high and uniform temperature. Now this high and uniform temperature acts is not known, but I feel convinced it must be through some change in the electric current of the body and if experiments could be made in that state a patience can be affected, by the delicate physicians lately exhibited by Dr. Bennet, I have no doubt valuable information on the changes of the electric current of the body when affected with these diseases, would lead to a more correct knowledge and treatment of them. In Dr. Bennet's experiments, I have found the treatment by hot baths beneficial as if Opium and alcohol, which when either Opium, or only one given in large doses separately or confused. In Stammer, I have found one remedy better than another, and in Hydrophobia, the same. In the latter complaint I have had many opportunities of trying medicines in the most heroic doses, but without avail. Chloroform relieved the patient much, and all the disease of such an extent, but without delaying the fatal issue, smoothed by its sedative quality to the Spirit and from this world. In one case that of a fine boy, where I was led to fancy the utmost might have been resident in the cutting scaffold.
In separals, from the scrofulous crisis, I ordained all the nerves of the arm, but without arresting the paroxysm. or arresting the fatal issue. While we cannot cure this awful disease, we can prevent its occurrence, by the extermination of all stray dogs, wholehearted masters, as ill fed as to quantity & quality of food, & uniformed in all Eastern settlements. The Police by killing all dogs found in the streets the first three days of every month, soon diminished their numbers, and the disease for years disappeared. But on this rule being relaxed, the balance of dogs again increased, & the disease reappeared. When I brought the subject officially before Government, and stringent measures were again adopted, with the like good result.

Rheumatism, Rhenatization, & Neuralgia are the arising Hurltalgia. Common in this climate, and evidently from the high susceptibility of the Venous System. To the slightest impression from the cheek that and often gives rise to the sensible perception of the slightest motion of the nose. When the Neuralgia is local (as in many other affections) I have found the external use of Chloroform in the manner first described by one in a Wesleyan Treatise, but the Medical Char. Society Edits most effectual. It consists of soaking a piece of handkerchief in the nose of a Volatile, fanning it over with your hand, retaining it in the nose for about 10 minutes, & by the warm hand, when often so much irritation will have been produced, as to set free, the combination of
it is the sin, that bear the burden, and
dominates the world, as the Richman
do in cold countries. Amongst the ill fed
poor, lepra, Atiastis, and all varieties
prevail; filling the Ranger Hospital, and
swelling the mortality table, while in those
who are better fed, both pox and smallpox are only
too common. Ringworm in a variety of
forms attacks at one joint or another, every
native of European residence, but the remedy
is at hand in the leaves of the cassia daud
which bruised and rubbed on the part will re
move the disease in a few days, if it has not
become chronic. I have said that the scope
of this paper has prevented me entering into
details and doing justice to the importance of the subject, but I trust the
new doctrines I have broached will be found
consistent with the truth, and may
accrue to much that was mysterious
in the climate of Tropical Countries.

R. S. S.