

MADRAS RECORD OFFICE.

Government of Madras.

Public DEPARTMENT.

G.O. No.	1088	Press
	157-163	~~Mis.~~
Dated	19-7-	1871

Not to be folded or roughly handled

PUBLIC DEPARTMENT.

No. 1088.

FROM

W. HUDLESTON, Esq.,

Acting Chief Secretary to the Government of Fort St. George,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,

HOME DEPARTMENT.

SIR,

With reference to the endorsement of the Government of India, Home Department, dated the 21st March last, No. 1542, forwarding to this Government, for an expression of their opinion a letter and report from Messrs. C. Palmer and W. G. Murray on the Hill of Mahendragiri and the Port of Barwah, in the Ganjam District of this Presidency, I am directed to submit copies of the replies received from the gentlemen named in the margin who were consulted on the subject, and to state that this Government concur in opinion with Mr. Carmichael and Dr. Shortt that the proposition of Messrs. Palmer and Murray to establish a sanitarium on the Mahendragiri Hill is premature, the salubrity of the hill never having been tested all the year round.

2. The Government deprecate the establishment of a sanitarium on the Mahendragiri Hill. Its success is extremely doubtful, while the expense in roads, buildings, medical, and other public establishments, &c., &c., will be very heavy. Barwah has nothing whatever to recommend it beyond any other town or village on the Coromandel Coast.

I have the honour to be,

Sir,

Your most obedient servant,

FORT ST. GEORGE,
19th July 1871.

Acting Chief Secretary.

From G. S. FORBES, Esq., 1st Member of the Board of Revenue, to the Chief Secretary to Government, Fort St. George, dated Madras, 22nd April 1871.

With reference to an Order of Government, dated the 30th of March and calling on myself and other gentlemen for an opinion as to the suitableness of the Mahendragiri Mountain for a sanitarium, I have the honour to enclose (for convenience of

reference) copy of a report on this subject addressed by me to the Madras Government in January 1862, together with their Order thereon.

2. From personal experience of the climate at different seasons, and from the fact that the family of Major Leslie Grove and that of another officer (whose name I do not remember) passed a month on the hill, I may safely declare that there is no risk of fever. My own visits were very brief, but a single night passed in a feverish locality is sure to affect some member of a numerous party, and none of my companions on these excursions, or of our servants, ever suffered from fever.

3. *Line of approach.*—I have descended the hill by a rough track on the side indicated in the Calcutta Report as affording the best line of approach, and I am able to confirm the opinion which its authors formed from general observation. This approach would be from Barwah directly through Bodarsingee Cotta, from whence it would proceed along the south bank of the Mahendratunga river for some miles; it would then wind up the mountain, ascending finally to a point opposite the waterfall. Bodarsingee Cotta is the residence of a petty Zemindarni, to whom a portion of the hill belongs, and within whose limits I built the small stone cottage which is alluded to in the Calcutta Report, and which on leaving Ganjam I placed at the disposal of my successor, Mr. Carmichael. The Mundasa Cotta and Purla Kimedy Zemindars both own portions of the hill.

4. *Climate.*—It is worthy of note that Mahendragiri is the only hill in India which combines the advantage of an altitude approaching 5,000 feet with that of close proximity to the sea, which is distant only fifteen miles as the crow flies. During the hot months, i.e., from the middle of March to the end of October, the prevalent and almost constant winds are from the south-east, south, and south-west, and, owing to the run of the coast line of Ganjam (which is from north-east to south-west), these currents are all tempered by the sea, and do not blow over tracts of forest and hill. During the prevalence of the north-east monsoon (November to February) the wind blows steadily from the north and north-east and is dry and piercing.

5. *Acquisition of sites and approaches.*—If the matter is put before the Zemindars in a judicious and considerate manner, I anticipate no difficulty in obtaining their consent to the formation of the necessary roads and to the appropriation of sites (which, of course, will be subject to a quit-rent, payable to the proprietors) without recourse to Act X. of 1870.

6. *Labour.*—If, however, the co-operation of the Zemindars is not conciliated, great and almost insurmountable difficulty will occur in procuring the labour necessary for clearing road traces and for carrying building materials up the hill. The Sowrahs who inhabit the base and slopes of Mahendra consider themselves the feudal dependents of the Zemindars in whose limits they reside, and will render no assistance whatever contrary to the wish of those personages; they have also petty chiefs called Bisoyes, who have great and immediate influence over them. These Bisoyes are Ooriyas, and are the descendants of the petty Chiefs placed over the Sowrahs by the Zemindars of former days. It is absolutely essential to make these men the agents through whom the Sowrah labour is utilized, and that the labourers should have their work laid out for them by officials who understand them and will manage them considerately. During the early days of the proposed sanitarium the comfort of the residents will depend much on the friendly readiness of the Zemindars and their Bisoyes and Sowrahs to assist them. I should have been quite unable to visit the hill or to build there without their aid.

7. *Supplies.*—As to supplies, fish and poultry must be procured from the coast villages. Sheep can be had from Purla Kimedy, and milk is procurable from the herdsmen on the lower slopes of the hill and from Mundasa. For supplies from the Kimedy approach the Coipooram Bisoye's aid will be needed, and from the Mundasa side that of the Sarava Cotta Bisoye; on the Bodarsingee side the Toomba Cotta Bisoye would assist.

From G. S. FORBES, Esq., Collector and Agent to the Governor of Fort St. George in Ganjam, to the Chief Secretary to Government, Fort St. George, dated Purla Kimedy, 7th December 1861, No. 327.

With reference to the inquiries instituted by Government some time since, through the Medical Department, regarding hill ranges suitable for sanatoria, I have the honour to report, for the information of His Excellency the Governor in Council, the result of two excursions undertaken by myself and other gentlemen in the district to the summit of the Mahendragiri Mountain, which is distant about twenty miles from the sea coast, north latitude $18^{\circ} 57'$, longitude east $84^{\circ} 24'$.

2. The first ascent was undertaken on the 9th October from the eastern side of the mountain by Messrs. Minchin, Hooper, and myself. The approach is by a somewhat circuitous path, which winds for several miles between the lower spurs of the range; then follow about six miles of very easy and gradual ascent, until the path faces the steep side of the higher portion of the mountain. From this point to the summit, a distance of perhaps one-and-a-half or two miles, the way is extremely toilsome. After surmounting this difficulty we found ourselves on a saddle of about four miles in length at an altitude ranging from 4,000 to 4,900 feet, varying in width and slope, and in parts narrow, but affording ample ground for numerous houses and gardens.

3. The surface is covered with grass for a considerable space, with here and there small woods, in which are to be found the wild raspberry and violet, and the ferns and orchids common to the hill ranges of the Peninsula. In parts, however, the saddle is bare and rocky; springs of pure water are to be found in several places. During our first visit, which was in October, the thermometer ranged from 58 to 73, and on the second occasion in November from 45 to 61.

4. On the very highest point of the hill is a small stone pagoda, formed of stones of such bulk that the mode of its construction is not easy to be conjectured. The height of the building, which is four-sided, may be about twenty-two feet: the basement occupies an area of about thirteen feet square, and is formed of four blocks of stone of about ten feet in length by three feet in breadth and of the same thickness; three layers each consisting of four blocks surmount the basement, and on the top of them is laid a single block eight feet square by four feet thick, finished by a circular stone carved like a coronet and of about five feet in diameter.

5. The entrance barely admits a man, and in the interior is the stone symbol held sacred by the Lingayets. Close by this pagoda is a station of the Trigonometrical Survey, and from this point the coast may be traced from Ganjam on the north to Calingapatam on the south. The view to south-west ranges over the greater part of Purla Kimedy; behind the range, or rather on its western side, runs a deep valley, on the opposite side of which rise the numerous and extensive hill ranges occupied by the independent Sowrah tribes: some of these hills are but little inferior in height to the Mahendragiri. To the north and north-east are distinctly traceable the Jarada, Jalandra, Bodarsingee, Soorungee, and Chikati Hill Zemindaries, and the taluqs of Itchapore, Moherry, and part of Poobaconda. The Mundasa Zemindary extends from the east face of the range to the sea-shore. Besides the small pagoda already described on the summit of the mountain there are two others rather lower down of more elaborate carving and greater size: they differ in outline, but both are of forms common in Orissa. Three or four other similar structures are to be found in the neighbouring woods in various stages of ruin. Messrs. Hooper, Lane, and myself discovered, during our second ascent, which was made with a view to ascertain the capabilities of an approach from the western valley, the remains of an inscription in the Tamil character; but we had not the leisure or the means to pursue our examination so far as to decipher complete words. There are also inscriptions in Ooriya and Telugu, and some other character resembling the Mahratta. The natives can give no distinct account of these buildings, but one tradition ascribes them to the "Pandavas," perhaps identical with the Pandian brothers, who formed the dynasty of that name in the south.

6. We found the ascent from the long valley on the western side of the hill comparatively easy and capable of being rendered more so at a trifling outlay in clearing jungle. If further exploration appears to the Government desirable on public grounds, I would undertake to have this done by the Sowrahs if 500 Rupees are placed at my disposal. It will be desirable, among other things, to ascertain the state of the springs in the hot weather and the salubrity of the climate at that season.

7. We observed numerous and extensive valleys of fertile soil suitable for the growth of coffee, and a plateau where the cinchona tree would probably thrive.

8. As the valley which divides the Mahendragiri range from the Hill tracts of the independent Sowrahs to the west extends from the Jarada Zemindary completely into the Purla Kimedy country, a line of communication along this part of the Sowrah border might be very easily secured by clearing a wide road trace along the western side of the valley for the entire distance. For military purposes, and more especially for Police patrol, such a line would be of some value. If, therefore, the Government approve such an undertaking, the Court of Wards would, I am persuaded, co-operate on behalf of the estate in the undertaking by supplying funds for that portion of the trace which is in the Kimedy limits, and which comprises, in fact, the larger portion of the line.

Order, 6th January 1862, No. 7.

Referred to the Department of Public Works, where the subject of the concluding paragraph will receive consideration.

Paragraph 6.

2. The Government do not deem it advisable for the present to incur any expense in clearing the road up the hill.

(Signed) T. PYCROFT,
Chief Secretary.

From D. F. CARMICHAEL, Esq., Acting Secretary to Government, Revenue Department, to the Acting Chief Secretary to Government, Fort St. George, dated Fort St. George, 10th June 1871.

I beg to acknowledge the Proceedings of Government marginally noted asking my opinion on the proposed sanitarium at Mahendra, in the Ganjam District, where I succeeded Mr. Gordon Forbes as Collector and Governor's Agent in April 1867, an appointment which I still hold.

2. Dr. Palmer, I observe, writes "a short sea-trip and residence by the sea side is the first object we aspire to." If that is so, a few hours' more steaming would bring his invalids to Vizagapatam, or, as part of it is called, Waltair, the salubrity of which is notorious.

3. It stands (latitude $17^{\circ} 42'$ north, longitude $83^{\circ} 24'$ east) in a small bay, the south extremity of which is bounded by a promontory, a remarkable hill, some 1,500 feet high, known to Mariners as the "Dolphin's Nose," and its north extremity by the village of Waltair, the breadth across the bay being about six miles. The situation is strikingly picturesque (see the record of the late Bishop of Calcutta's (Wilson) impressions, in Vol. II. of his life), and the climate exceedingly salubrious, at all events to visitors from the inland stations during the hot months, and it has been more than once proposed to create a sanitarium there for soldiers from Nagpore and Hyderabad. To persons long resident there it proves relaxing, the air being soft and the prevailing winds generally either the south-east or the easterly; land winds are almost unknown, being intercepted by the neighbouring hills. The south-west rains set in about the first week of June and run into the north-east monsoon, about the middle of September.

Madras Medical Topography, Vol. II.

4. The following table shows the average height of thermometer and barometer throughout the year:—

Months.	Average height of Thermometer.	Average height of Barometer.
January	$70^{\circ} 0'$	$30^{\circ} 0'$
February	$73^{\circ} 0'$	$30^{\circ} 1'$
March	$79^{\circ} 0'$	$30^{\circ} 0'$
April	$83^{\circ} 0'$	$30^{\circ} 0'$
May	$87^{\circ} 0'$	$29^{\circ} 9'$
June	$87^{\circ} 0'$	$29^{\circ} 8'$
July	$82^{\circ} 0'$	$29^{\circ} 9'$
August	$82^{\circ} 0'$	$29^{\circ} 9'$
September	$80^{\circ} 0'$	$29^{\circ} 9'$
October	$79^{\circ} 0'$	$30^{\circ} 0'$
November	$77^{\circ} 0'$	$31^{\circ} 1'$
December	$73^{\circ} 0'$	$31^{\circ} 1'$

5. It was my head-quarters for nearly five-and-a-half years, and, if the Calcutta Committee had visited it, they would have been as charmed with it as other Bengalees to my knowledge have been. I may specially mention that well-known gentleman, Mr. Wyllie, who, having found himself there for a few days, could hardly tear himself away.

6. It is a very notable place. A Municipality and the chief town in the district of the same name; Churches—English, Roman Catholic, Presbyterian; schools, shops, markets, hospitals, dispensaries, reading-room, racquet court, croquet, and archery clubs. There are numerous spare houses too. The coasting steamer already touches at Vizagapatam. Send your invalid there, and he has everything he needs. Place him at Barwar, and there is everything wanting. Why go to a vast expense in buying land (it is all zemindary) and building bungalows, &c., when a place like Vizagapatam is within as easy reach? And, after all, is the settlement formed with the construction of the bungalows? When will it become a flourishing town with supplies, medical attendance, &c., available?

7. As regards, in the next place, the Mahendra Hill, it is obvious to remark that its salubrity all the year round has never been brought to the test of experience. What does our knowledge amount to? Merely that a few Europeans have now and then remained up there for a few days in the three-roomed bungalow built by my predecessor, and have suffered no ill effects.

2ndly.—It is all very well to describe the Sowrahs of the sparsely populated valleys in the neighbourhood as an "interesting race of aborigines." When specially and occasionally called in by their Chiefs to help the big "Sahib" and his friends up the Hill, they may respond cheerfully enough; but I doubt if they will cheerfully subside into the inevitable position of coolies, running up and down at the beck and call of the members of the numerous colony we are to have up there; expected, moreover, to supply them with milk, eggs, fowls, and so forth. *Esperio crede*: they have a very truculent trait in their character, and the first incivility shown them will evoke it with a vengeance.

8. I would, therefore, till the Railway to the foot of the Darjeeling Range is completed (when nothing better in the way of a hill sanitarium will *ex concessio* be left to desire), look in some other direction for a hill sanitarium, and give up this project about Mahendra; while for a sea-side sanitarium, immediately available, I would confidently point to Vizagapatam *cum* Waltair.

From Dr. J. SHORTT, M.D., Superintendent-General of Vaccination, Madras Presidency, to the Chief Secretary to Government, Fort St. George, dated Madras, 15th June 1871, No. 647.

I have the honour, with reference to memorandums, No. 150 of the 31st ultimo, and No. 160 of the 14th instant, from the Under Secretary, to submit, herewith, two copies of Part III. of the "Hill Ranges of Southern India," which contains, among other places, an account of the Mahendragiri Hill, just received from the publishers, Messrs. Higginbotham and Co., Madras.

From F. J. V. MINCHIN, Esq., Manager of the Aska Sugar Works, to the Acting Chief Secretary to Government, Fort St. George, dated Aska, 19th June 1871.

I beg to tender my apologies for having so long delayed in replying to your memorandum dated 30th March, which, however, only reached me at the end of April owing to my absence in Madras. I should have replied thereto some time back had I not learned that the Acting Collector of this district, F. C. Carr, Esq., had it in contemplation, during his official tour in the district, to ascend the Mahendra Hill. Considering his observations during a visit at the height of the hot season would be of interest to all concerned in the furtherance of the sanitarium, I arranged with the Collector a simultaneous observation of the thermometer during his stay on the hill at three periods of the day, viz., sunrise, noon, and sunset, at Aska, Gopaulpore, and Mahendra, on the 22nd and 23rd May. The readings were as follow:—

Place and Date.	Sunrise.	Noon.	Sunset.
Aska, 22nd May.....	84	83	88
Gopaulpore, do.	83	88	84
Mahendra, do.	73	77½	74
Aska, 23rd May.....	84	98	90
Gopaulpore, do.	83	91	85
Mahendra, do.	74	80	74

The reading on Mahendra at sunrise of 24th was 69°!

These thermometers were all carefully compared and found to correspond with the one at Aska, which was tested by Captain Murray during his visit to me last October and found to agree with the standard thermometer he had with him.

The whole time I was there there was no sea-breeze. I should think that the coast breezes, which are the result of different temperatures of sea and land, are so strictly local and confined to sea coast that even on the Mahendra, only thirteen miles off, they are constantly unfelt. It was a west or west-south-west wind which generally blew when we were up there, though, I believe, the wind below was "longshore."

F. C. C.
The thermometer at Aska stood at 105° at 4 p.m. and on 30th May 1870 at 105° at 5 p.m., and it will be observed, from the readings above given, that while the thermometer at Aska was 5° higher at noon of 23rd than it stood at the same hour on

22nd, the difference on the Mahendra was only 2½°, or just one-half of the difference. The readings at Gopaulpore would no doubt represent the readings at Barwah on the same days, and thus give the temperature at the proposed sea-side sanitarium also;

We went over every available spot of the hill, and there is certainly no lack of building sites for any number of houses that are likely to be required, and with small expense walks might be cut about the hill.

but here again I think it well to remark that, owing to the unusually low temperature in the interior, the usual "longshore" winds were not blowing, and that consequently the temperature on the coast was

F. C. C.
higher on those days than is usual at the season of the year. I find, however, the noon-day readings of the thermometer, on 22nd May 1869 and 1870, were 88° 88° respectively, and, on 23rd May 1869 and 1870, 87° 88° respectively.

I think well of both projects. I can say from personal observations, having twice visited the hill, that there are excellent sites at both Barwah and Mahendra for building purposes, and I have the authority of the Collector for saying that if there were any advantage he would transfer the Sampetta Sub-Magistrate to Barwah at the mere cost of a new Sub-Magistrate's cutcherry less the price realized by selling the present one, and that he would also from local funds make the specified road to the foot of the hill. The ghaut would have to be made by the establishers of the sanitarium. How far it would be advisable or profitable to the Steamer Agency to have two ports of call so close to one another as Gopaulpore and Barwah (thirty-five miles), is quite another question. My own opinion is that a canal from Gopaulpore to Barwah, or probably nearer to the foot of the hill, would be the more feasible plan.

I am also authorized by Mr. Carr to say that he thinks highly of the project,

Although the thermometer did not go down so low as I expected, the feeling of the atmosphere was agreeable with no oppressiveness, and when the sun was clouded one could walk about on the hill till quite late in the day.

and from his own personal observation is of opinion that there are ample sites for building purposes on the hill, and that he found the temperature exceedingly pleasant and the hill in every way adapted to a sanitarium.

F. C. C.

I have certainly never heard any complaint of the unhealthiness of the hill; indeed, the Zemindar of Mundasa, to whom the hill belongs, assures me that it is perfectly healthy. I have spoken to him also regarding the leasing of sites on the hill, and I am happy to be able to say that he is most willing to offer leases there on

The Mundasa Zemindar is a most agreeable and enlightened man, and would gladly do what Mr. Minchin says.

My opinion is that the whole scheme is feasible. A workable ghaut might easily be made (probably I think on the Sarvakota side—we came down the Bodasingee, and it was very abrupt), bungalows built, and there is, I think, no fear of unhealthiness; but, of course, the space is so limited that it will never be more than a sanitarium for those who cannot afford to go to Darjeeling or the hills, and will never be a favourite place of resort. Barwah is no better and no worse than any other place along our coast, but there is not much open building ground about it.

(Signed) F. C. CARR,
Acting Agent.

willing acquiescence. In this opinion I venture to bespeak the concurrence of

Messrs. G. S. Forbes, D. F. Carmichael, and G. H. Ellis, late Collectors of this district, and, as I forward this letter through the Acting Collector, Mr. Carr, I leave to him the expression of his own opinion.

P. S.—I am much obliged for copy of the report, which has only just reached me.

F. J. V. M.

Home 1871 Dept.

From Government of
Fort St. George.

Dated 19th July 1871. {
No.
Enclosures
E. Spare copies

D. No. {
D.
L. No. 1088. Procs. {
No.

Submitting the opinions of certain gentlemen
on the proposition of Messrs. C. Palmer and
W. G. Murray to establish a sanitarium on the
Mahendragiri Hill and one at the Port of Barwah.

Proceedings of the Madras Government, Public Department,
6th January 1862.

No. 11. Read the following letter from G. S. FORBES, Esq., Collector and Agent in
Ganjam; to T. PYCROFT, Esq., Chief Secretary to Government, Fort Saint George,
dated Parlakimidi, 7th December 1861, No. 327.

Para. 1. With reference to the enquiries instituted by Government some time since through
the Medical Department regarding hill ranges suitable for sanatoria, I have the honor to report
for the information of His Excellency the Governor in Council, the result of two excursions
undertaken by myself and other gentlemen in the district to the summit of the Mahendragiri
mountain which is distant about 20 miles from the Sea coast, North latitude 13-57, longitude
East 84-24.

2. The first ascent was undertaken on the 9th October from the eastern side of the moun-
tain by Messrs. Minchin, Hooper and myself; the approach is by a somewhat circuitous path
which winds for several miles between the lower spurs of the range, then follow about six miles
of very easy and gradual ascent until the path faces the steep side of the higher portion of the
mountain, from this point to the summit a distance of perhaps 1½ or 2 miles the way is extremely
toilsome. After surmounting this difficulty we found ourselves on a saddle of about 4 miles in
length at an altitude ranging from 4,000 to 4,900 feet, varying in width and slope and in parts
narrow, but affording ample ground for numerous houses and gardens.

3. The surface is covered with grass for a considerable space with here and there small
woods, in which are to be found the wild raspberry and violet and the ferns and orchids common
to the hill ranges of the Peninsula. In parts however the saddle is bare and rocky, springs of
pure water are to be found in several places. During our first visit which was in October the
Thermometer ranged from 58 to 73 and on the second occasion in November from 45 to 61.

4. On the very highest point of the hill is a small stone pagoda formed of stones of such
bulk that the mode of its construction is not easy to be conjectured. The height of the build-
ing, which is four-sided, may be about 22 feet; the basement occupies an area of about 13 feet
square and is formed of four blocks of stone of about 10 feet in length by 3 feet in breadth and
of the same thickness, three layers each consisting of four blocks surmount the basement and on
the top of them is laid a single block 8 feet square by 4 feet thick finished by a circular stone
carved like a coronet and of about 5 feet in diameter.

5. The entrance barely admits a man, and in the interior is the stone symbol held sacred
by the Lingayets; close by this pagoda is a station of the Trigonometrical Survey, and from this
point the coast may be traced from Ganjam on the north, to Calingapatam on the south. The
view to south-west ranges over the greater part of Parlakimidi; behind the range or rather
on its western side runs a deep valley, on the opposite side of which rise the numerous and exten-
sive hill ranges occupied by the independent Sourah tribes; some of these hills are but little
inferior in height to the Mahendragiri. To the north and north-east are distinctly traceable
the Jarada, Jalandra, Bodarsingee, Soorungee and Chikati Hill Zemindaries and the talooks of
Itchapore, Moherry and part of Poobaconda. The Mundasa Zemindary extends from the east
face of range to the sea shore. Besides the small pagoda already described on the summit of
the mountain, there are two others rather lower down of more elaborate carving and greater size,
they differ in outline but both are of forms common in Orissa; three or four other similar struc-
tures are to be found in the neighbouring woods in various stages of ruin. Messrs. Hooper, Lane
and myself discovered during our second ascent which was made with a view to ascertain the
capabilities of an approach from the western valley, the remains of an inscription in the Tamul
character but we had not the leisure or the means to pursue our examination so far as to decipher
complete words. There are also inscriptions in Oriya and Telooogoo and some other character
resembling the Mahratta. The Natives can give no distinct account of these buildings, but one
tradition ascribes them to the "Pandavas" perhaps identical with the Pandian brothers who
formed the dynasty of that name in the south.

6. We found the ascent from the long valley on the western side of the hill comparatively
easy and capable of being rendered more so at a trifling outlay in clearing jungle. If further
exploration appears to the Government desirable on public grounds, I would undertake to have

*Proceedings of the Madras Government, Public Department,
6th January 1862.*

this done by the Sourahs if five hundred Rupees are placed at my disposal; it will be desirable among other things to ascertain the state of the springs in the hot weather and the salubrity of the climate at that season.

7. We observed numerous and extensive valleys of fertile soil suitable for the growth of Coffee and a plateau where the cinchona tree would probably thrive.

8. As the valley which divides the Mahendragiri range from the hill tracts of the independent Sourahs to the west extends from the Jarada Zemindary completely into the Parlakimidi country, a line of communication along this part of the Sourah border might be very easily secured by clearing a wide road trace along the western side of the valley for the entire distance; for Military purposes, and more especially for Police patrol such a line would be of some value. If therefore the Government approve such an undertaking, the Court of Wards would I am persuaded co-operate on behalf of the estate in the undertaking by supplying funds for that portion of the trace which is in the Kimidi limits, and which comprises in fact the larger portion of the line.

~~105-10~~

ORDER ~~105-10~~, 6th January 1862, No. 7.

Referred to the Department of Public Works where the subject of the concluding paragraph will receive consideration.

2. The Government do not deem it advisable for the present to incur any expense in clearing Paragraph 6. the road up the hill.

(Signed) T. PYCROFT,
Chief Secretary.

In Public 730/84

Exd. F. Cartledge.

Handwritten notes at top right of page.

13

Public 1871 Department

From

Offy. Madras Government

General Secretary

Private Secretary

1862

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Office of Sup. of
Indns Presidency
Madras the 15th June 1871

N^o 647
From

The Sup. Genl. of Vaccination
Madras Presidency

To

The Chief Secretary to Government
Fort Saint George

Sir

I have the honor with reference
to Memos. N^o 150 of the 3rd ultimo and
N^o 160 of the 14th instant from the
Chief Secretary to submit herewith
two copies of Part 3 of the Hill
Races of Southern India which
contains among other places an account
of the Mahendragiri Hills just received
from the publishers Messrs. Huggins
& Co. Madras.

I have the honor to be
Sir

Your most Obedt. Servant

John Shanks
Sup. Genl. of Vaccination
Surgeon

Original returned
to Secy of India
28/7

No 84 Public Deptt!
Memorandum 17

The undersigned has the honor to request that ten additional copies of the Report of Messrs Palmer and Murray on the Subject of establishing a Hill Sanatorium on Archaedragie referred to in their letter to the Private Secretary to His Excellency the Viceroy of the 27th March last and which has been forwarded to the Secretary for the Department for report may be furnished for communication to certain gentlemen whom it is proposed to consult on the subject.

Forth St James 2 / 12" April / 73
 J. H. C. St James
 Secy.

To the Offy Secretary to the
 Govt of India
 Home Deptt.

1871 Sept 11
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 The report has been
 forwarded to the
 Private Secretary
 to His Excellency
 the Viceroy of the
 27th March last
 and which has been
 forwarded to the
 Secretary for the
 Department for
 report may be
 furnished for
 communication to
 certain gentlemen
 whom it is proposed
 to consult on the
 subject.

Public Dept.
1871
Revenue and Finance
Dated 12th April/71

Revenue of 12th April/71, No 29
Report on the Mills of the Government

Public 1871 Report

From

Under Secy. Govt. of India

Revenue Department

No. 2400.

7/15th } May/71.
7/22nd }

Recd. &
25.6.

No. 1007

Forwarded further

papers on the subject
of the proposal to establish
a hill Sanitarium on
Mahanagiri & a sea-side
Sanitarium on the adjacent
coast of Barwar.

With 1000
1871

c. 4/7
R. 100

21/12
Ratta 19th June 1871.

3/6

W. Rudleston Esq.

Acting Chief Secretary to the Govt of

Fort St. George

Madras.

Sir,

Locally there is no objection whatever to the scheme in fact whatever is done would find willing helpers in the people official and non official. A sea coast, not hill Sanitarium is wanted. The hill Presidency is littoral and the hill Stations in the South are easily available and ready made. If this want does ^{some} however exist in Calcutta this can be carried out for a comparatively small outlay and at no great difficulty. F.C.

I beg to tender my apologies for having long delayed in replying to your Memorandum dated 30th March, which however only reached me at the end of April, owing to my absence in Madras. I should have replied thereto some time back, had I not learned that the Acting Collector of this District, F. C. Lewis Esq., had it in contemplation during his official tour in the District to ascend the Mahimdra Hill. Considering his observations during a visit at the height of the hot season would be of interest to all concerned in the furtherance of the Sanitarium, I arranged with the Collector a simultaneous observation of the Thermometer during his stay on the Hill at 3 points of the day viz Sunrise, Noon and Sunset at Astar, Kopalporo and Mahimdra on the

The whole time I was there, there was no sea breeze and I think that the coast breezes which are the result of different temperatures of sea lands, are as strictly local and confined to sea coasts, that even on the Mahindra only 12 miles off they are constantly unfeelt. It was a W or W.S.W. wind which generally blew when we were up there though I believe the wind below was long & strong.

J.C.

22nd and 23rd May. the readings were as follows.

Place & date: — Simina — Now — Sunset.

Aetka. 22nd May — 84 — 93 — 88.

Kopahpore — do — 83 — 88 — 84.

Mahindra — do — 73 — 77½ — 74.

Aetka. 23rd May — 84 — 98 — 90.

Kopahpore — do — 83 — 91 — 85.

Mahindra — do — 74 — 80 — 74.

The reading on Mahindra at Simina of 24th was 69°!

These Thermometers were all carefully compared and found to correspond with the one at Aetka which was tested by Captain Murray during his visit to me last October and found to agree with the Standard Thermometer he had with him.

It was so far unfortunate for the above statement that this has been a wonderful cool season for I find by my diary that on 21st May '69 the thermometer at Aetka stood at 105° at 4 P.M. and on 22nd May 1870. at 105° at 5 P.M. and it will be observed from the readings above given, that while the thermometer at Aetka was higher at noon of 23rd than it stood at the same

the went over very available
spots of hills, and there is certainly
no lack of building sites for
any number of houses that are
likely to be required and with
small expenses walks might
be cut about the hill.
J.C.

25/11
same hour on 22nd, the difference on the Mahi-
dra was only $2\frac{1}{2}^{\circ}$ or just one half of the difference.
The readings at Cephalora would no doubt
represent the readings at Barwar on the same
days, and thus give the temperature at the pro-
posed sea side Sanitarium also, but here again.

I think it well to remark that owing to the
unusually low temperature in the interior,
the usual long shore winds were not blowing
and that consequently the temperature on the
coast was higher on those days than is usual
at the season of the year. I find however the
Monday readings of the Thermometer on 22nd May
'69 & '70 were 88° 88° respectively and on 23rd May
'69 & '70 87° 88° respectively.

I think well of both projects. I can say from
personal observations, having twice visited the
Hill, that there are excellent sites at both Bar-
war and Mahindra for building purposes.
and I have the authority of the Collector for
saying, that if there were any advantage he
would transfer the Sompetta Sub Magistrate
to Barwar at the mere cost of a new Sub Mag-
istrate. Butcher, less the price realized by
selling

although the thermometer did
not go down so low as I expected
the feeling of the atmosphere was
agreeable with no oppressiveness
and when the sun was clouded
we could walk about on the hill
till quite late in the day.

7C.

27 15
telling the present one, and that he would also
from local funds make the specified road to the
foot of the Hill. The Grant would have to be
made by the Establishers of the Sanitarium.

Now far it would be advisable or profitable to
the Steamer Agency to have 3 spots of Calcutta
to one another as Lophore and Bannar (28 miles)
is quite another question. My own opinion is
that a canal from Lophore to Bannar or proba-
bly nearer to the foot of the hill would be the
more feasible plan.

I am also authorized by Mr. Lewis to say that he
thinks highly of the prospect and from his own
personal observation is of opinion that there
are ample sites for building purposes on the hill
and that he found the temperature exceedingly
pleasant and the hill in every way adapted
to a Sanitarium.

I have certainly never heard any complaint of
the unhealthiness of the hill, indeed the
Geminde of Mundasa, to whom the hill belongs,
assures me that it is perfectly healthy. I
have spoken to him also regarding the leasing
of Sites on the Hill, and I am happy to be able
to

The Mundasa Zemindar
 is a most agreeable and enlight-
 ened man and would gladly
 do what Mr. Minchin says.
 My opinion is that the whole
 scheme is feasible & workable
 & that might easily be made
 probable. I think on the same
 side, we came down the
 Bodasing and it was very abrupt
 being a low built and there
 is I think no fear of unhealthiness
 but of course the space is so limited
 that it will never be more than a
 Sanitarium for those who cannot
 afford to go to Darjaling or the
 hills and will never be a favorite
 place of resort. Barwah is no
 better and no worse than any
 other place along our coast
 but there is not much open
 building ground about it.

F. C. Carr
 A. S. Agent.

to say that he is most willing to offer land
 there on the most reasonable terms, indeed, he
 is in every way desirous of promoting the views
 of Messrs. Palmer and Murray, and I think it
 but just to him to observe, that this Native
 Gentleman is in my experience the most en-
 lightened Zemindar of this District and has
 received with the most friendly hospitality the
 many Europeans that have visited him and
 the hill during the last 10 years. I am confi-
 dent, therefore that any proposals made to
 him under the approval of the Government
 will be met with the most cheerful and
 willing acquiescence. In this opinion I have
 been to bespeak the concurrence of Messrs.
 H. L. Forbes, G. F. Carmichael and G. H. Elton
 late Collectors of this District and as I forward
 this letter thru the Acting Collector Mr. Carr
 I leave to him the expression of his own opinion.
 Have the honor to be
 Sir,

Your most obedient servant
 F. J. Minchin
 Manager of the Betta Sugar Works
 P. 20

P.L.

31

I am much obliged for copy of the
Report, which has only just reached me.

H. 1892

From

D. F. Carmichael Esqr.
Ag Secy to Govt. R. W.

To W. Hudson Esqr.
Ag Chief Secy to Govt.

Sir,

I beg to acknowledge the Proceedings
of Government marginally noted, asking my
opinion on the proposed Sanatorium at
Mahenda in the Panjani District, where
I succeeded Mr Jordan Forbes as Collector
and Governor's Agent in April 1867, an appoint-
ment which I still hold.

2. Dr Palmer, I observe writes "a short
sea trip and residence by the sea side
is the first object we aspire to." If
that

June 1871
No 777 Public.

Letter 1071, D. F. Carmichael

From

D. F. Carmichael Esqr.

Memorandum of the Govt.

Ag Secy to Govt.

19 July 1871
No 1088

Ag Secy to Govt.

No 1353.

how much the

Sanatorium

Sanatorium

Sanatorium

Sanatorium

that is to, a few hours more remaining
would bring his invader to Vizagapatam,
or as part of it is called, Waltair, the
salubrity of which is notorious.

3. It stands (Latitude $17^{\circ} 42' N$; longi-
-tude $83^{\circ} 24' E$;) in a small bay, the
South extremity of which is bounded by
a promontory, a remarkable hill, some
1500 feet high, known to mariners as the
"Dolphin nose" and its North extremity
by the village of Waltair, the breadth
across the bay being about 6 miles.

The situation is strikingly picturesque
(see the record of the late Bishop of
Bombay (Wilton) impressions, in the
climate

Madras
medical Topo-
-graphy. Vol II.

exceedingly salubrious, at all events to
visitors from the inland Stations during
the hot months - and it has been more
than once proposed to create a Sanato-
rium there for ~~delirious~~ Madras
and Hyderabad. Persons long resident
there, it proves relaxing the air being
soft and the prevailing winds generally
either the S.E. or the E. and W. winds
are almost unknown, being intercepted
by the neighbouring hills. The S.W.
rains set in about the first week of
June, and run into the N.E. monsoon
about the middle of September.

The following table shows

the average height of Thermometer and
Barometer throughout the year.

Months	Average height of Thermometer.	Average height of Barometer.
January	70° 0'	30° 0'
February	72° 0'	30° 1'
March	79° 0'	30° 0'
April	82° 0'	30° 0'
May	87° 0'	29° 9'
June	87° 0'	29° 8'
July	82° 0'	29° 9'
August	82° 0'	29° 9'
September	80° 0'	29° 9'
October	79° 0'	30° 0'
November	77° 0'	31° 1'
December	73° 0'	31° 1'

5. It was my Head Quarters for nearly
5½ years, and if the Calcutta Committee had
visited it, they would have been as charmed
with it as other Bengalees to my knowledge
have been. I may especially mention that well
known gentleman, Mr. Wyllie, who, having found
himself there for a few days, could hardly tear himself away.

6. It is a very notable place -
a Municipality & the chief town in
the district of the same name. Churches,
English, Roman Catholic, Presbyterian,
Schools, Shops, Markets, Hospitals,
Dispensaries, Reading Room, Ragged
School, Cricket & Archery Clubs. There
are numerous private houses too. The
Owing Steamer already touches at
Tijajapatnam. Send your invalid
there and he has everything he needs.
Place him at Borwar & then see
everything wanting. Why go to a
vast expense in buying land (it is
all government) & building buildings
when a place like Tijajapatnam
is within as good a reach?
And after all, is the settlement formed

will ~~be~~ (left to desire) look
in ~~the~~ the direction for a Mill
Sanitarium, & give up this project
about Mahendra; while for a sea-side
Sanitarium, immediately available,
I would confidently point to Virga-
patam - cum - Waltair.

~~My dear Sir~~ I have the honor to be
~~the~~ Sir
Your most Obedt Servant

D. G. Jamine Esq
Off Secy. to Govt

~~My dear Sir~~
~~I have the honor to be~~
~~the~~
~~Yours most Obedt Servant~~

43
Revenue Board Office
Madras, 22 April 1871.

From
G. S. Forbes Esq^r,

To,
The Honorable R. S. Ellis. B. B.,
Chief Secretary to Government
Public Department.

Sir,

1. With reference to an Order of Government dated the 30th of March, and calling on myself and other Gentlemen for an opinion as to the suitability of the Mahendragiri mountain for a Sanitarium, I have the honor to enclose (for convenience of reference) copy of a report on this subject addressed by me to the Madras Government, in January 1862, together with the order thereon.

2. From personal experience of the climate at different seasons, and from the fact that the family of Major Leslie Grove and that of another officer (whose name I do not remember) passed a month on the Hill, I may safely declare that there is no risk of fever. My own visits

Public for records

From

W. S. Forbes Esq^r to Govt
Recd. 27th

He is of the day to Govt

Recd. 10: } June 1871

Recd. 27th

Submitting opinion
on the proposed Sanitarium

at Mahendragiri in the former
District.

visits were very brief, but a single night passed in a feverish locality is sure to affect some member of a numerous party, and none of my companions on these excursions, or of our servants, ever suffered from fever -

3. I have descended the hill by a rough track on the side, indicated in the Calcutta Report as affording the best line of approach, and I am able to confirm the opinion which its authors formed from general observation. This approach would be from Barwa, directly through Bodarsingee Cotta, from whence it would proceed along the South bank of the Mahendratunga river, for some miles, it would then wind up the mountain ascending finally to a point opposite the waterfall. Bodarsingee Cotta is the residence of a petty Zemindar, to whom a portion of the Hill belongs and within whose limits I built the small Stone Cottage which is alluded to in the Calcutta Report and which on leaving Ganjam I placed at the disposal of my successor Mr Carmichael. The Mundasa Cotta and Larla Himedy, &c. Zemindars both own portions of the Hill -

Line of approach

4. It is worthy of note that Mahendragiri is the only hill in India which contains the

Climate

advantage of an attitude approaching 5000 feet with that of close proximity to the sea, which is distant only 15 miles as the crow flies. During the hot months i.e. from the middle of March to the end of October the prevalent and almost constant winds are from the South East, South, and South West and owing to the run of the Coast line of Ganjam, (which is from North East to South West,) these currents are all tempered by the Sea and do not blow over tracts of Forest and Hill. During the prevalence of the North East Monsoon (November to February) the wind blows steadily from the North and North East and is dry and piercing -

Acquisition of sites and approaches -

5. If the matter is put before the Zemindars in a judicious and considerate manner I anticipate no difficulty in obtaining their consent to the formation of the necessary roads and to the appropriation of sites, (which of course will be subject to a quit rent payable to the proprietors) without recourse to Act I of 1870 -

Labour

6. If however the co-operation of the Zemindars is not conciliated, great and almost insurmountable difficulty will occur in procuring the labour necessary for clearing road traces, and for carrying building materials up the Hill -

The

The Sourahs who inhabit the base and slopes of Mahendra consider themselves the feudal dependants of the Zemindars in whose limits they reside and will render no assistance whatever contrary to the wish of those personages; they have also petty chiefs called Bisoyes who have great and immediate influence over them - These Bisoyes are Boriyas, and are the descendants of the petty chiefs placed over the Sourahs by the Zemindars of former days; it is absolutely essential to make these men the agents through whom the Sourah labour is utilized, and that the labourers should have their work laid out for them by officials who understand them, and will manage them considerately. During the early days of the proposed Sanitarium, the comfort of the residents will depend much on the friendly readiness of the Zemindars and their Bisoyes, and Sourahs to assist them, I should have been quite unable to visit the Hill or to build there, without their aid -

7. As to supplies, fish and poultry must be procured from the coast villages, sheep can be had from Larla Shimedy, and milk is procurable from the herdsmen on the lower slopes of the Hill and from Mundasa - For supplies from the Shimedy approach, the Coimbaram Bazar's aid will be needed

Supplies

and from the Mundasa side that of the Sarva Cotta Bisoye; on the Bodarsingee side the Toomba Cotta Bisoye would assist -

I have the honor to be,
Sir,
Your most obedient servant.

G. J. Jones
Member Sec.
Board

cliff 28/7 with copy
of original papers
of returned.

Public Department.

No. 1088.

To
The Secretary to Government
of India.

Home Department.

Sir,

With reference to the
endorsement of the
Government of India
Home Department dated
the 21st March last, for
forwarding to this Govern-
ment for an expression
of their opinion a letter
and report from Messrs.
C. Palmer and M. J. Murray
on the hill of Shahendra.

Circulate

J. D. S.
N.

x Mr. P. S. Forbes, late Chief
Ganjam 2711? April 1871 with
Mr. D. L. Carmichael, Collector
of Ganjam. A very brief
Rev. Sept 2711? June 1871.
Mr. J. Short, late Chief of
Vaccination 2715? June 1871/1872
with printed report.
Mr. F. J. Mackenzie, 2713?
June 1871 with notes in
margin by the Collector
of Ganjam

gore, and the Port of
Barwah in the Ganjam
District of this Presidency
I am directed to submit
copies of the report re-
ceived from the gentle-
men named in the margin,

Notes

Public 1871 Report

From P. S. Forbes Esq.

to Mr. Wm. S. Forbes Esq. C.B.
Chief Secy to Govt.
Hyderabad, George

Patent 22nd April 1871

27 19 July 1871
No. 1088.

No 736

Enclosing copy of
report on the available
crop of the Madhupratap
Mountains for a few
miles -

2. The Government
also agree with Mr
Carmichael that
Waltham the head quarter
station of the Collector
of the District of
Verapattam is prefer-
able as a residence
for the Collector.

the Expense in
Roads, Buildings
Medical & other public
establishments ^{in the} will
be very heavy. Heretofore
has nothing whatever to
recommend beyond
any other town or
village in the Colo.
unimpaired cost. \$2

[illegible]

3. The Government
do not consider it advi-
-sable that any incurre-
-ment should be given
for the establishment
of a Sanatorium either
on the Malabaragiri
Hill, or at the Port
of Barwaha.

Labell George.
19 July 1891

William Pitt
1790
...

No. 11
The Secretary to the
Department of
Dated 187

187

1900 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2

From *Conrad's*

Port St. George.

Purch.

152

V.

Fracture

Sp. 1975-1976

30. 10. 1941

Progs.

14.

1. 10

Nos 2-4

Submarine
and
from the
and 1/2
and
Liggins. The
the front of Barrow.