

MEDICAL REPORTS

FOR THE

HALF YEAR ENDED 30TH SEPTEMBER, 1874;

FORWARDED BY THE SURGEONS TO THE CUSTOMS AT THE
TREATY PORTS IN CHINA;

BEING No. 8 OF THE SERIES,

AND

FORMING THE SIXTH PART OF THE

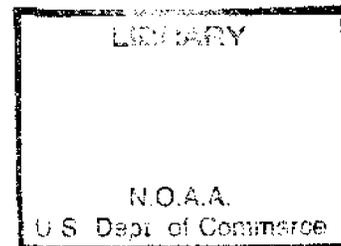
CUSTOMS GAZETTE

No. XXIII.—JULY-SEPTEMBER, 1874.

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(1874)

PUBLISHED BY ORDER OF

The Inspector General of Customs.



SHANGHAI:

IMPERIAL MARITIME CUSTOMS STATISTICAL DEPARTMENT.

MDCCLXXV.

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National Oceanic and Atmospheric Administration

Environmental Data Rescue Program

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December 20, 2000

INSPECTOR GENERAL'S Circular No. 19 of 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31st December, 1870.

SIR,

1.—It has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly report containing the result of his observations at..... upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the Medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season.
Alteration in local conditions—such as drainage, &c.
Alteration in climatic conditions.

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence.
Causes.
Course and treatment.
Fatality.

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to, will serve to fix the general scope of the undertaking. I have committed to Dr. ALEX. JAMIESON, of Shanghai, the charge of arranging the reports for publication, so that they may be made available in a convenient form.

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the

Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.—

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*

I am, &c.,

(signed)

ROBERT HART,

I. G.

THE COMMISSIONERS OF CUSTOMS.—*Neuchwang, Ningpo,*
Tientsin, Foochow,
Chefoo, Tamsui,
Hankow, Takow,
Kiukiang, Amoy,
Chinkiang, Swatow, and
Shanghai, Canton.

SHANGHAI, 1st April, 1875.

SIR,

IN accordance with the directions of your despatch No. 6 A (Returns Series) of the 24th June 1871, I now forward to the Statistical Department of the Inspectorate General of Customs the following documents:—

- A.—Report on the Health of Newchwang, from 1st April 1873 to 30th September 1874, pp. 7-11;
- B.—Report on the Health of Takow and Taiwan-fu, pp. 12-15;
- C.—Report on the Health of Shanghai, pp. 16-28; each of these two Reports relating to the April-September half year, 1874;
- D.—Report on the Health of Peking, for the half year ended 31st March 1874, pp. 29-39;
- E.—Report on the Health of Tientsin, p. 40;
- F.—Report on the Health of Hankow, pp. 41-49;
- G.—Report on the Health of Chefoo, pp. 50-53;
- H.—Report on the Health of Foochow (Pagoda Anchorage), pp. 54-64;
- I.—Report on the Health of Swatow, pp. 65-66;
- J.—Report on the Health of Amoy, pp. 67-70; each of these six Reports relating to the April-September half year, 1874.

I have the honour to be,

SIR,

Your obedient Servant,

R. ALEX. JAMIESON.

THE INSPECTOR GENERAL OF CUSTOMS,

Peking.

The Contributors to this Volume are—

J. WATSON, M.D., L.R.C.S.E.,	Newchwang.
T. RENNIE, M.B., CH. M.,	Takow and Taiwan-fu.
R. ALEX. JAMIESON, M.A., M.D., M.R.C.S.,	Shanghai.
J. DUDGEON, M.D., CH. M.,	Peking.
J. FRAZER, L.R.C.S.I., L.R.C.P.E.,	Tientsin.
A. G. REID, M.D., F.R.C.S.E.,	Hankow.
J. R. CARMICHAEL, M.D., F.R.C.S.,	} Chefoo.
W. W. MYERS, M.B., CH. M.,	
J. R. SOMERVILLE, M.D., F.R.C.S.E.,	Pagoda Anchorage, Foochow.
C. M. SCOTT, L.R.C.S.I.,	Swatow.
C. M. JONES, F.R.C.S.,	} Amoy.
D. MANSON, M.D., CH. M.,	

A.—Dr. James WATSON's Report on the Health of Newchwang, from 1st April
1873 to 30th September 1874.

THERE were several reasons which deterred me from writing separate reports for the two preceding half years, but the principal one was that in my former accounts of the health of Newchwang, I exhausted, or nearly exhausted, all I had to say on the subject. The longer period which I review in this article enables me to notice a peculiarity in the climate of the two summers included in the period, as well as to point out one or two results which have occurred, unfavourable to the general health of the community, foreign and native alike.

The summers of 1873 and 1874 were distinguished in this district by the unusual amount of rain which fell. Not only were there more days of rain, but a larger quantity fell during the rainy months than is common in this province. In the meteorological table appended I have given a list of days in which rain fell for upwards of two hours in the twenty-four. But this does not give a sufficiently accurate idea of the amount, for on several of those days rain fell the whole day. Besides these, there were many occasions on which it rained for a shorter period with so much violence that ponds which were nearly empty were soon filled, and roads (or what we call roads) which were sufficiently dry to permit of limited locomotion suddenly became great swamps. The rain-fall on these and other occasions was so great that although there were frequently periods of dry weather, the roads were during the two summers practically impassable, that is to say ordinary traffic was completely interrupted. The rude drainage which exists in Manchuria, deep ditches dug on either side of every road and around separated fields, was of little or no use. All the ponds and basins in the country were overflowing, and in many places for miles in every direction the face of the country was completely obliterated, the crops were covered, and it was frequently only possible to recognise familiar localities by the occasional large inns, which at every ten *li* on the great highways, rose island-like out of the sea of waters. When winter came the water was frozen in the earth and remained there until the next spring. This is by no means the ordinary experience. The severe frost of winter rends the ground into innumerable great fissures which extend from three to four feet beneath the surface. These fissures absorb and drain off the surface water as it is melted by the winter sun, and in this way considerable ponds are completely dried up in the early spring, although none of the water has been carried off otherwise, if we except the process of evaporation which is constantly going on. In the spring of 1874 this natural drainage did not take place, for the rain-fall had been so general that all the low-lying districts were alike saturated, and the fissures were unable to conduct the water to regions which had not been deluged with rain. When then the warmth of spring in 1874 dissolved the ice in our ponds and melted our roads, it was found that the former were nearly full of water, and the roads, at this season generally dry and hard, were soft and muddy. With the advance of spring came great rains, and as the summer wore on it rained more and more, so that between the foreign settlement on the one hand and the great mountain range on the other, for rather more than two months the country was one great swamp.

The effect of this condition of things was what might have been expected. The natives who farmed the plain in which this settlement is situated were great sufferers; the rich were impoverished; the poor were reduced to destitution; great sickness prevailed; and it was recognised as simply a necessity that those who had not food should help themselves where and how they best could. During the summer comparatively few Chinese starved, but many had insufficient food, and a depraved state of health prevailed, due to the unhealthy character of the country and the insufficient quantity and bad quality of food. As far, however, as I could find out, there was no very great increase of mortality among natives during the summer. They suffered from rheumatism and ague and also from all kinds and degrees of dyspepsia.

The unhealthy state of the settlement during the summer of 1873 did not manifestly affect the general health of the foreign residents, or at least there were fewer cases of severe sickness than one might have expected. Children suffered more than is usual from diarrhoea, and adults from chronic rheumatism and neuralgia, but neither in the case of the children nor of the adults were there any unusually severe attacks. It was rather in the absence of a healthy vigour than in a marked increase of severe ailments that this period was remarkable.

The winter of 1873-74 was an ordinarily severe one, with some eight successive days of extremely cold weather which occurred at the end of December and beginning of January, during which week many natives died in the streets from the combined effects of cold and starvation. This fact touched the hearts of the foreign residents, and a subscription was raised to feed the most destitute. Immediately afterwards the Chinese guild opened kitchens to feed the hundreds who flocked from the surrounding country to this port-town for food. For three months the guild gave one meal a day to about 1,500 poor people. This meal consisted simply of boiled millet, a grain whose nutritive qualities I have on former occasions referred to, and it was remarkable how healthy these men and women looked after their restricted diet. When it is remembered that during three months the fifteen hundred people had only one meal a day, were very insufficiently clothed, miserably housed, almost entirely destitute of fires, and generally exposed to the most depressing conditions, it will strike any one who thinks of the matter at all, that millet must have wonderfully sustaining powers. This fact I have had strongly impressed upon me during my residence in Manchuria, and it has often seemed to me that an attempt should be made to introduce a grain of such thoroughly nutritive qualities into foreign countries where food is dear, and where it too often occurs that the working people are ill nourished and of stunted growth. Here, where in times of prosperity the common people live almost entirely upon millet, as fine a class of labourers is raised as any to be seen elsewhere in the world. I have already made one or two experiments with millet as a diet for foreigners in China, and I have every reason to be satisfied with them. As this subject is of considerable interest, I would suggest that millet should be used as the sole diet for prisoners confined in consular gaols at the China ports, for crimes of violence, when the term of imprisonment does not exceed three months. It does not seem to be a very hard condition that criminals should be fed for a limited period on food which is used by tens of thousands of fine, healthy, hard-working men throughout their whole lives.

During the winter of 1873-74 the health of the foreign community was good. The ordinary cases of acute bronchitis, catarrh, &c. call for no special notice. The Chinese, with the exception of the large numbers who had insufficient nourishment and bad house accommodation, enjoyed good health. Indeed, for those who had all comforts necessary to protect them from the effects of a severe winter, the climate during this period was everything that could be desired.

The summer of 1874 is distinguished from its predecessors in this, that for the first time since foreigners settled here, intermittent fever manifested itself among them. From the description above given of the great rain-fall during 1873-74, few will be surprised to learn that in June of the latter year an unmistakable case of malarial fever declared itself. The patient, a little girl six years of age, was first attacked when playing one afternoon on the bund. She was suddenly noticed by her companions to be pale, shivering and cold. When I saw her soon afterwards in bed, she still complained of feeling very cold, although reaction was beginning to set in. Then followed in due order the well marked hot and sweating stages and convalescence. Between the several seizures from which this little girl suffered there were intervals of irregular duration, but the onset, development and conclusion of each attack were so well marked that there could be no doubt as to the character of the fever, although it was impossible to give it a distinct place in any of the ordinary classes of intermittent.

Very soon after this, cases of the same fever became more frequent, and they were almost invariably of the tertian type. Besides these a great many people suffered from obscure nervous complaints and general *malaise*, which were, in my opinion, almost altogether due to malaria. In these cases there were usually enlargement of the liver and impairment of digestion. They were all amenable to treatment,

which usually consisted of a very small dose of Epsom salts in the morning, two or three doses of chubarb and as many of quinine daily. But although the ague was rapidly cured, so unhealthy was the climate at this period that weeks elapsed before strength and health returned to those who had been affected by the fever.

One of the malarial cases referred to above had some peculiar features, and as it may be interesting to the readers of these reports, I will give a short account of it. A. B., aged 34, is a gentleman of distinctly marked nervous temperament, who has inherited a liability to severe attacks of hemicrania. Of a family of four brothers and sisters one half suffers from these attacks, while the other half enjoys perfect immunity from them. In other respects he enjoyed perfect health till, coming to China, it was his lot to live in Formosa for a time; there he suffered from ague, and his health completely broke down, so that he had to return home. At home he soon regained strength, and his general health became excellent, except that the hemicrania was perhaps a little more severe and frequent, and also more easily induced than before his illness in Formosa. Soon after returning to China he noticed that whenever he suffered fatigue or was worried in any way he was liable to a succession of attacks of what I think must be considered suppressed or dumb ague. These attacks consisted of a premonitory chill, soon followed by a nervous headache, very slight but occasionally distinct fever, and recovery. They were, as a rule, mild, and unless when the subject of them was greatly depressed, were generally of short duration. For the last year, however, my patient has been more or less frequently anxious, and almost invariably at these times an attack occurred, and usually in this way.—During the day he would be in his ordinary health, but as night approached he would feel unaccountably tired, then chilly sensations would supervene, and he would go to bed. Although there were seldom or never distinct rigors, he would complain of great cold, and it would take hours of constant friction, hot bottles, warm drinks, &c., before the miserable chilly sensations passed away, to be followed by a comparatively mild reaction. When these attacks occurred he sometimes, but by no means generally, suffered from hemicrania, which however seemed to have no necessary connexion with the ague. At these times he generally suffered from what he called rheumatism of the shoulder, back and arms; but the pain was evidently of a nervous and not a rheumatic character; he sometimes suffered at the same or at other times from slight rheumatic pains in the knees, but these were never of long duration, and were easily relieved. The pains in the shoulder, back, and arms, were on the other hand frequently of an excruciating character, and they almost entirely prevented sleep, and that too after full doses of chloral and opium and the local application of sedatives. But the strange and to me quite inexplicable feature of these pains was this, that the moment the subject of them assumed the upright position they disappeared, while immediately he resumed the horizontal position they again took hold of him. On one occasion during the winter the pain, fatigue and sleeplessness induced by these attacks were of such a character that for a few hours the brain was distinctly unbalanced, and had not sleep been shortly afterwards induced, an attack of cerebral derangement, which proved to be very temporary, might have been seriously prolonged.

The above gives a fair account of these attacks. After a sleepless night the sufferer might have a few hours' rest in the morning, after which he felt more or less refreshed; but in the evening the same premonitory symptoms would occur, and these were almost invariably followed by the varied distress I have detailed.

The only local application which uniformly relieved the above symptoms was warmth, and that was applied in various ways. A waistcoat provided with arms and thickly quilted with cotton was found to be very grateful. I prescribed quinine in the hope of checking or moderating the attacks, but this was not tolerated. Iodide of potassium seemed to do no good, but I found that arsenic and iron very soon relieved and eventually controlled the attacks. They recurred several times during winter and early spring, and in the months of June and July my patient had one or two fits of regular tertian ague, which were also successfully treated with arsenic.

In a former report I mentioned the unsatisfactory state of the drainage, and the generally faulty construction of foreign houses in the settlement. While I regret to state that nothing (or so very little as

to be unworthy of mention) has been done to rectify the former state of matters, a considerable change for the better is observable in the latter. Ponds and pools of stagnant water are unfortunately still numerous; and in the summer under notice the usually dry and bracing character of the air was wanting, while the strong gales which in the past have had such a salutary influence so far as the health of this district is concerned, were very infrequent. To this was I believe due the occurrence of malarial fever. It is not likely that we shall for a long time have two such consecutive wet summers as those I have referred to; but if we have, it will be discreditable to us, if nothing be done meanwhile to drain the foreign settlement. This might be easily effected, as it is built close to a fine river which very rarely overflows its banks. The rain-fall, although it was considerable during the summers of 1873-74 for this district, was by no means great when compared with that at many of the southern ports.

There are now several well built and healthy houses in this settlement. The recent buildings have, as I recommended in a former report, been all well raised above the ground, and with the very best results to the health of the inmates. One instructive case I may mention here in illustration of the beneficial effects of change from an unhealthy to a healthy residence. A lady living in one of the older and unsatisfactorily built houses was suddenly attacked with symptoms of inflammation of the lungs. While these were treated it was observed that the fever was of an intermittent nature, and that the worst aspect of the case was its malarial character. My friend Dr. MYERS, who kindly attended to my practice at this time, had her at once removed to a pleasantly situated and well built house. Almost immediately the ague symptoms disappeared, while the pulmonary ailment was cut short.

The climatic condition during the summers included in this review did not, however, cause any deaths among the foreign residents. While almost every one suffered more or less from the depressing influences of wet weather, flooded roads, damp houses, clouded sky, &c., no one had his health permanently injured. But as malaria has a trick of returning to the locality it has once visited, it should be the earnest effort of the residents to see that by efficient drainage in the neighbourhood of their houses, no encouragement is given to this unwelcome guest to take up its abode permanently with us.

There were six births, four boys and two girls, and one death (an infant girl,) among the foreign residents between the 1st April 1873 and the 30th September 1874. The infant that died lived only six hours; it was born in a perfectly rigid state, and breathing was never vigorously established. It died exhausted by a series of convulsions, which I believe to have been excited by a diseased state of the brain. I had no opportunity of testing this opinion by post-mortem examination, but the appearance of the child, and the fact that it was the sister of an infant who died at the age of eight months, and of whom I wrote in my report for the half year ended 30th September 1872, that "it was undernourished and suffered from scrofulous deposits on the membranes of the brain and spinal cord," lead me to the conclusion I have expressed. The child suffered in no way during labour, which was an ordinary and easy one.

The following meteorological table will, I think, give a better idea of the climate of this district than those which have appeared in my former reports. It is of course to be understood that in the case of the extreme temperature readings, the mercury remained at the point indicated only during the hottest and coldest parts of the day. Thus the thermometer seldom remained on any one day for more than a few hours at above 80°, and on the other hand it never indicated 6° throughout the whole day.

Meteorological Table for the period beginning 1st April 1873, and ending 30th September 1874.

Month.	No. of days on which temperature fell below zero (Fahr.)	No. of days on which temperature fell below 10° (Fahr.)	No. of days on which temperature fell below 20° (Fahr.)	No. of days on which temperature fell below 30° (Fahr.)	No. of days on which temperature fell below 40° (Fahr.)	No. of days on which temperature was above 45° (Fahr.)	No. of days on which temperature was above 50° (Fahr.)	No. of days on which temperature was above 55° (Fahr.)	No. of days on which temperature was above 60° (Fahr.)	No. of days on which temperature was above 65° (Fahr.)	No. of days on which temperature was above 70° (Fahr.)	No. of days on which temperature was above 75° (Fahr.)	No. of days on which temperature was above 80° (Fahr.)	No. of days on which temperature was above 85° (Fahr.)	No. of days on which temperature was above 90° (Fahr.)	No. of days when rain fell for upwards of 2 hours in the 24.	No. of days when snow fell for upwards of 2 hours in the 24.	Lowest reading of Barometer (Aneroïd) for the month.	Highest reading of Barometer (Aneroïd) for the month.	No. of days on which high winds occurred for a longer period than 2 hours in the 24.	No. of days on which thunder storms occurred.	No. of days when no rain or snow fell.	No. of local dust storms.
1873.																							
April,.....	—	—	—	3	14	7	1	—	—	—	—	—	—	—	—	3	2	30.32	29.71	11	2	18	4
May,.....	—	—	—	—	—	23	10	2	1	—	—	—	—	—	—	2	—	30.23	29.67	10	—	23	4
June,.....	—	—	—	—	—	27	27	23	12	—	—	—	—	—	—	6	—	30.15	29.69	2	—	21	2
July,.....	—	—	—	—	—	31	31	29	23	—	—	—	—	—	—	7	—	30.06	29.36	6	—	19	—
August,.....	—	—	—	—	—	31	30	25	14	—	—	—	—	—	—	10	—	30.15	29.58	5	3	15	—
September,.....	—	—	—	—	1	25	17	4	—	—	—	—	—	—	—	4	—	30.39	29.71	4	1	23	—
October,.....	—	—	—	—	15	2	1	—	—	—	—	—	—	—	—	5	—	30.50	29.22	5	2	22	1
November,.....	—	5	23	31	28	—	—	—	—	—	—	—	—	—	—	—	1	30.52	29.86	8	—	28	—
December,.....	4	12	25	31	31	—	—	—	—	—	—	—	—	—	2	2	—	30.92	29.70	10	—	27	3
1874.																							
January,.....	6	23	30	31	31	—	—	—	—	—	—	—	—	—	2	2	—	30.65	30.12	8	—	29	6
February,.....	—	8	23	28	28	—	—	—	—	—	—	—	—	—	4	4	—	30.67	30.00	6	—	24	3
March,.....	—	—	16	29	31	—	—	—	—	—	—	—	—	—	—	—	—	30.77	29.80	12	—	31	11
April,.....	—	—	—	4	18	2	—	—	—	—	—	—	—	—	2	—	—	30.38	29.64	8	—	28	1
May,.....	—	—	—	—	1	7	4	2	—	—	—	—	—	—	3	—	—	30.12	29.59	5	Hail 2 1	17	—
June,.....	—	—	—	—	—	27	21	9	—	—	—	—	—	—	4	—	—	30.02	29.05	1	—	24	—
July,.....	—	—	—	—	—	31	31	30	22	—	—	—	—	—	1	—	—	30.08	29.45	1	—	27	—
August,.....	—	—	—	—	—	31	31	31	26	—	—	—	—	—	9	—	—	30.06	29.59	4	—	21	—
September,.....	—	—	—	—	—	30	23	20	7	—	—	—	—	—	2	—	—	30.31	29.86	2	1	28	—

REMARKS.—Ice first appeared in large quantity in the river on the 25th November, and it was frozen fast from bank to bank—opposite the settlement—on the 29th December, 1873. The river ice broke up on the 17th March, and it entirely disappeared on the 30th March, 1874.

The Thermometer (Fahr.) was hung under a verandah on the northern wall of the Custom House. The Barometric readings were taken from the instrument in the Harbour Master's office.

B.—Dr. RENNIE's Report on the Health of Takow and Taiwan-fu for the half year ended 30th September 1874.

During the six months there was one death (caused by drowning) among the European community.

The rain-fall of the past summer was considered by the older residents much greater than in previous seasons; and the Chinese state that they have not for the past forty years experienced such heavy rains. On several occasions it rained for three and four days in succession; and from the flooding of a large river in the interior many houses were swept away. Severe damage was also done to the sugar crop.

The temperature, as indicated by the thermometer, presented very little change from last year; but as perceived by us seemed much lower than formerly. Scarcely a day of the six months passed without a cool breeze, which lasted the greater part of the day, so that the thermometrical observations give a very inaccurate idea of the temperature as judged by bodily sensation.

The health of the community was exceedingly good; only three cases occurred in which disease could be referred to climatic origin. Of these two were cases of fever, and one of diarrhoea. All occurred in the neighbourhood of, or in one of the official houses, which is situated in a locality that has been for years considered exceedingly unhealthy. So many deaths from fever have occurred among the boatmen that they now never think of living on the premises, and the ghastly appearance of the domestics gives one the idea that he is in the neighbourhood of a hospital rather than near a dwelling house for Europeans. The form of fever is intermittent, usually mild, but followed in the European by much debility and indisposition, and among the Chinese protracted illness from gastric and splenic derangement succeeds.

For some time Europeans have been in the habit of bathing of a morning in the lagoon (a continuation of the harbour) where the temperature at the ebb-tide is about 88° F. Immediately after the bath follows a douche of water at a very low temperature, which gave rise in three instances to pretty severe attacks of febricula.

At Taiwan-fu the ordinary European residents enjoyed excellent health, but several of those who lately arrived to instruct the Chinese in warfare suffered severely from fever.

Among the floating community there was one death. A Malay who had for some time been living on shore at Liang-kiao, (where the Japanese first landed in Formosa,) came here in the month of June, suffering from bronchitis, ague and diarrhoea, and died of abscess of the liver. Beyond this there were no other cases worthy of record.

TABLE of Maximum, Minimum, and Mean Temperatures in the shade, for each Month, and the number of days on which Rain fell.

MONTH.	HIGHEST.	LOWEST.	MEAN.	DAYS OF RAIN.
April,	82°	65°	70°	6
May,	85°	74°	78°	21
June,	87°	78°	82°	13
July,	87°	76°	81°	19
August,	88°	79°	81°	16
September,	89°	78°	85°	11

The following is a list of the diseases of natives treated at the Takow Chinese Hospital.

A.—GENERAL DISEASES.

Remittent and Intermittent Fevers:—

	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
Intermittent:—							
Quotidian,	12	22	59	49	42	55	239
Tertian,	2	8	21	20	26	10	87
Quartan,	5	10	13	14	9	13	64
Irregular,	2	2	8	3	15
Remittent,	3	2	7	2	...	17	31
TOTAL,	24	44	108	88	77	95	436

B.—CONSTITUTIONAL DISEASES.

Acute Rheumatism,	6 cases.
Chronic "	22 "
Gonorrhœal Rheumatism,	3 "
Syphilis, Primary,	10 "
" Secondary,	30 "
" Hereditary,	4 "
Lupus,	1 "
True Leprosy,	1 "
Scurvy,	5 "
Anæmia,	89 "
Scrofula,	5 "
General Dropsy,	6 "

Iritis,	2 cases.
Traumatic Iritis,	1 "
Syphilitic "	2 "
Amaurosis,	3 "
Cataract,	8 "
Glaucoma,	2 "
Inflammation of the Lachrymal sac,	2 "
Obstruction of Lachrymal ducts,	1 "
Entropium,	4 "
Trichiasis,	26 "
Tarsal Ophthalmia,	5 "
Abscess in the Orbit,	1 "
Tumour in Orbit,	2 "

C.—LOCAL DISEASES.

Diseases of the Nervous System:—

Chronic Hydrocephalus,	2 "
Paralysis,	9 "
Epilepsy,	3 "
Hysteria,	3 "
Mania,	3 "

Diseases of the Eye:—

Ophthalmia,	8 "
Catarrhal Ophthalmia,	3 "
Pustular "	5 "
Gonorrhœal "	12 "
Chronic "	32 "
Pterygium,	9 "
Keratitis,	4 "
Ulcer of Cornea,	7 "
Opacity of Cornea,	24 "
Staphyloma,	6 "

Diseases of the Ear:—

Otitis,	4 "
Otorrhœa,	7 "
Perforation of Membrana Tympani,	1 "

Diseases of the Nose:—

Ozœna,	2 "
Epistaxis,	3 "
Polypus Nasi,	4 "

Diseases of the Circulatory System:—

Valvular disease of the Heart,	4 "
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Diseases of the Respiratory System:—

Coryza,	10 "
Laryngitis, Chronic,	5 "
Bronchitis, Acute,	2 "
" Chronic,	25 "
Asthma,	2 "
Chronic Phthisis,	14 "

Diseases of the Digestive System:—

Thrush,	4 cases.
Cancrum Oris,	2 "
Abscess of the Antrum,	1 "
Diseases of the Teeth,	10 "
Pharyngitis,	6 "
Dyspepsia,	14 "
Pyrosis,	5 "
Dysentery,	8 "
Melæna,	2 "
Hernia,	5 "
Diarrhœa,	14 "
Constipation,	8 "
Fistula in Ano,	5 "
Hæmorrhoids,	7 "
Stricture of Rectum,	3 "
Enlarged Liver,	11 "
Jaundice,	4 "
Agne Cake,	48 "
Ascites,	6 "
Intestinal Parasites—Round Worms	26 "

Diseases of the Urinary Organs:—

Bright's Disease,	2 "
Cystitis,	3 "
Gonorrhœa,	9 "
Phimosis,	4 "
Condyloma,	3 "
Stricture of Urethra,	4 "
Urinary Fistula,	1 "
Hydrocele,	2 "
Orchitis,	4 "

Spermatorrhœa,	3 cases.
Leucorrhœa,	8 "
Amenorrhœa,	6 "
Dysmenorrhœa,	4 "

Diseases of the Organs of Locomotion:—

Ostitis,	1 "
Periostitis,	6 "
Caries,	3 "
Necrosis,	6 "
Synovitis,	8 "
Abscesses,	13 "
Tumours,	4 "

Diseases of the Cutaneous System:—

Urticaria,	3 "
Eczema,	5 "
Rupia,	2 "
Ecthyma,	7 "
Acne,	6 "
Leucoderma,	2 "
Ulcer,	45 "
Boils,	9 "
Whitlow,	4 "
Gangrene,	3 "
Cheloid,	2 "

Parasitic Diseases of the Skin:—

Tinea Tonsurans,	30 "
" Favosa,	2 "
Scabies,	34 "
General Injuries,	2 "
Local " 	27 "

Among the Chinese no epidemics occurred; but intermittent and remittent fevers were very prevalent, especially towards the end of the season. A great many Chinese suffer from the effects of both, and a considerable number die during the fever through sheer neglect. It is reported that the Chinese troops that lately arrived from the North of China, and are encamped about six miles inland, have up to this time enjoyed excellent health.

Among cases treated at the Chinese Hospital were some very exemplary instances of the phlegmatic constitutions of the Chinese.

A man 25 years of age was brought to the Hospital six days after receiving violent injuries by way of punishment for repeated acts of theft. The patient's eyes had been very dexterously extirpated, some of his fingers so nearly amputated that they were on the point of dropping off, and innumerable wounds of considerable length and depth were inflicted on other parts of his body. Many of the wounds were so close to important vessels and membranes that it was difficult to understand how these had escaped injury, seeing that the wounds were inflicted with the large knife commonly used by the Chinese for domestic purposes. The unfortunate man, bereft of his eyes and with his wounds gently suppurating, presented a most hideous aspect. With a good supply of nourishing food, and great attention to the dressing of his injuries, he recovered, and after six weeks returned to his home perfectly healed.

Another instance was that of a man 30 years of age, who eighteen days previous to admission sustained a compound comminuted fracture of the bones forming the ankle joint, caused by an anchor falling on his ankle while resting on a piece of wood. No treatment previous to his admission had been adopted. The ends of the tibia and fibula were found crushed, and the upper surface of the astragalus denuded of cartilage, while a good deal of matter was discharging from three openings into the joint. After adjusting the parts the limb was immoveably fixed. The joint was daily cleansed by injecting a watery solution of carbolic acid. Several pieces of bone came away, and the wound healed. In ten weeks no mobility in the joint could be detected, and the patient moved about on crutches, and soon after this he left the hospital to resume his former occupation.

C.—Dr. Alexander JAMIESON'S Report on the Health of Shanghai for the half year ended 30th September 1874.

For the subjoined meteorological table, with the remarks which accompany it, I am indebted to Mr. C. DEIGHTON-BRAYSHER, Assistant Harbour Master :—

MONTHS.	HIGHEST RANGE OF BAROMETER.		LOWEST RANGE OF BAROMETER.		THERMOMETER IN THE SHADE.		HOURS OF RAIN.	NUMBER OF GALES.	PREVAILING WINDS.
	Barometer.	Attached Thermometer.	Barometer.	Attached Thermometer.	MAX.	MIN.			
April,.....	in. 30.352	° 48.0	in. 29.803	° 65.0	° 84.0	° 35.0	44	0	N.E., S.E.
May,.....	30.200	61.0	29.652	73.0	87.0	52.0	59	1	E.S.E.
June,.....	30.050	73.5	29.850	75.5	94.5	65.5	45	0	S.E.
July,.....	30.052	80.5	29.700	83.0	93.0	73.0	23	2	S.S.E.
August,.....	30.254	83.5	29.700	77.0	92.5	74.0	34	1	S.E., N.E.
September,.....	30.300	69.0	29.902	75.5	87.0	61.0	87	1	N.E.

The instrument from which the barometrical observations were taken is a FORTIN'S standard of $\frac{5}{10}$ inch bore, No. 287. It is placed about 16 feet above the level of the river.

The rise during the highest spring tides at this port is from 11 feet 6 inches to 12 feet.

Barometer.—During the entire six months the barometrical pressure was very small, yet slight depressions accompanied the usual thunderstorms which pass over us in the months of July and August. The minimum of 29.652 inches on the 2nd of May, lasted for a very short time, and the mercury rose rapidly to 30.150 inches a few hours after.

Thermometer.—The temperature was not generally high, though the summer was protracted. The maximum of 94°.5 registered on the 5th June was lower than the maximum of any year since 1866.

Rain.—The rain-fall was little compared with previous years during similar months.

Gales.—Winds were light generally, and fewer gales passed over this place in the six months than have been known for many years.

Winds.—The quarters from which the wind blew nearly correspond with other years in the same seasons.

Although the temperature was at no time very high, the air was during the half year constantly laden with moisture, and with ground exhalations. To this, at least in part, was due the fact that the entire period was marked by much serious illness, and in the latter portion of it the rate of mortality was above the average. Malarial fevers, diarrhoea, and an inflammatory diarrhoea approaching dysentery in character were common. The latter was especially prevalent among children after the beginning of June, when there was a considerable rain-fall and a wide range of temperature. No cases of small-pox were observed after May, and chicken-pox which had been epidemic during the first three months of the year also disappeared in that month. Apart from fatal cases, it may be said that during the six months the great majority of foreign residents passed through some form of gastric or enteric derangement. There was no epidemic, properly so called, but remittent fever of a typhoid character prevailed among adults and children, being in the former frequently associated with more or less severe hepatic congestion. Intermittent fever was common, but generally mild. One case of typhus fever (in a Eurasian) came under my care. Recovery took place, after a severe illness, and I have not heard of any other instance of the disease. Enteric fever was present, but was not unusually fatal. It will thus be seen that illness, severe or fatal, due directly

to climatic causes, was frequently observed. I include under this, cases of hepatitis, dysentery, the malarial fevers, neuralgia, sun malaise (often associated with alcoholism), dyspepsia accompanied by congestion of the liver, and obstinate vomiting frequently due to alcoholic excess.

The health of the Customs staff was fairly good. One man sent by me to hospital with persistent high temperature (102°-103.5° F.) and wasting, but no other symptoms, was on the 6th October subjected to an exploratory puncture of the liver with DIEULAFOY'S aspirator. A deep-seated collection of pus was evacuated, and on several successive occasions pus or pus mingled with sanious fluid was in like manner withdrawn. The patient died exhausted on the 23rd October.

So much stress has been laid in the successive numbers of these reports upon the impurity of the Shanghai water supply, and the dangers accruing from it, that I might now pass the matter over in silence but for the need of impressing the guardians of the public health with the intimate connexion which exists between impure water and the spread of typhoid fever and other diseases. Dr. George JOHNSON has recently expressed his "belief that in a very large proportion of cases there is as close a relation between diphtheria and insanitary conditions as exists between typhoid fever and similar insanitary conditions," and again "that the occurrence of an indigenous case of diphtheria in a house is an indication of the necessity for a most rigid inquiry into the condition of the drainage and the water supply" (*Lancet*, i. of 1875, p. 9). I need not again cite authorities upon the propagation of typhoid fever by means of unclean water. All are unanimous upon this point. The only question at issue is whether water not specifically contaminated can produce the disease, and this is here of minor importance, as at any given time we never know enough of the diseases prevailing among the Chinese around us to enable us to assert that the water drawn from the river and creeks is not probably so contaminated. What we do know is that at all events it is very impure, and that in nine cases out of ten no sufficient means of purification are adopted. Experience in India is decisive as regards the spontaneous origin of typhoid, but it appears probable that the disease arises there among young soldiers from causes more purely climatic than those which produce it here. Thus Dr. BRYDEN makes the following startling statement (*Eighth Annual Report of the Sanitary Commissioner with the Government of India*, 1871, p. 226):—

Standing out far above all criticism is the great truth, not that young men die from enteric fever in India, but that enteric fever is the one disease from which young men die. * * * Upwards of 50 per cent of all deaths in young soldiers, if cholera deaths be excluded, are attributable to typhoid.

I submit that this statement from a high Indian authority is important to us inasmuch as we are yearly maintaining or increasing, by one means or another, the prevalence of typhoid among us, and we are constantly receiving drafts of young men from home, who, if Indian experience is to be regarded as likely to be reproduced in Shanghai, may fall victims to the disease at a very early period of their career. Change of climate is, by Dr. BRYDEN, considered to be the exciting cause in a constitution predisposed to typhoid. This, however, is merely a matter of detail, the essential fact is that, given the endemic presence of typhoid, no one is safe from its ravages, but new arrivals, and particularly the young, are tolerably certain to be sufferers. An inspection of Dr. BRYDEN'S reported cases moreover shews how closely malarial fevers occasionally run with typhoid. Thus the diagnosis in cases noted as ague or remittent is frequently amended on the appearance of a typhoid rash or other characteristic symptom. And this, as I have briefly noted above, closely resembles our experience here. Instances reported further on will prove that cases set down as "remittent" would, had there been an eruption or iliac pain or gurgling, have been entered as "typhoid."

The entire subject of the dependence of disease upon organic effluvia is enshrouded in mystery. On the one hand there is evidence which cannot be gainsaid that sewer gases when admitted into a house are a fertile cause of typhoid fever. These gases are products of the decomposition of organic substances. On the other, we have equally distinct evidence that workers in drains are not specially subject to typhoid, although MURKISON explains this by the protection afforded by age, by previous attacks, and by lengthened exposure. But it is at any rate certain (HIRT:—*Krankheiten der Arbeiter*, 1873) that the effluvia given off

in the processes of tanning, soap-boiling and gelatin-making, although "insupportable by those unaccustomed to them" and "whose effect on the organ of smell defies description and must be experienced in order to be known and feared, * * * are in no way injurious. * * * We are not in a position to recognise any unhealthy action in the odours." (HIRT, translated by PARKES in Appendix to *Army Medical Report* for 1872, pp. 236, 237). Yet these effluvia are certainly of organic origin, and are stated by HIRT to consist of CH, NH₃, N, and sometimes also of H₂S, the offensive smell being due to the presence of the latter along with trimethylamin, amylic, butyric, propionic and formic acids. To sum up, our knowledge of the etiology of the great majority of diseases is up to the present purely empirical, but it is our duty to eliminate, so far as may be, all apparent sources of danger, without attempting to analyse closely (which we have no means of doing effectually) all possible sources into those which are real and those which are merely apparent. And this duty is all but co-extensive with the adoption of obvious hygienic measures—the avoidance of putrid drain emanations, the supply of pure water, and regard to ventilation both in private houses and, on the large scale, in cities by the prevention of over-crowding.

The returns of the General Hospital for the six months have not yet been made up. There were 183 admissions of Europeans for all classes of disease, among which small-pox figured largely during April and May.

During the half year there were, as I gather from the Burial Register and the sexton's books, 51 deaths, distributed as follows through the months:—

BURIAL RETURN OF EUROPEANS FOR THE HALF YEAR ENDED 30TH SEPTEMBER, 1874.

DISEASE.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
Heart Disease,	*1	1	—	—	1	*1	4
Enteric Fever,	1	—	—	—	—	—	1
Small-pox,	†1	—	—	—	—	—	1
Convulsions,	—	‡1	—	—	—	—	1
Paraplegia,	—	1	—	—	—	—	1
Carcinoma,	—	1 _f	—	—	—	—	1
Phthisis Pulmonalis,	—	—	1	—	1 _m 1 _f	1	4
Diarrhoea,	—	—	§1 _f	—	§1 _f	††2 _f	4
Aneurism,	—	—	—	1	—	1	2
Disease of Spinal Cord,	—	—	—	1	—	—	1
Dysentery,	—	—	—	—	1	¶3	4
Abscess of Liver,	—	—	—	—	*1	—	1
Peritonitis,	—	—	—	—	1 _f	—	1
Heat Apoplexy,	—	—	—	—	1 _f	—	1
Cirrhosis of Liver,	—	—	—	—	—	1	1
Tuberculosis,	—	—	—	—	—	1	1
Nervous Exhaustion,	—	—	—	—	—	*1 _f	1
Remittent Fever,	—	—	—	—	—	*1	1
Drowned,	1	*2	*4	1	*1	*1	10
Uncertified,	*1 1	*1 _m ††1 _f	—	*1	*1 _m ††2 _f	**2	10
Total,.....	6	8	6	4	12	15	51

* Non-resident. † Child 20 months old; non-resident; unvaccinated. ‡ Child 9 months old. § Child 15 months old. || One a non-resident adult, the other a child 6 weeks old. ¶ One non-resident, one a child aged 17 months. ** One an infant, age not stated, the other non-resident. †† One a child 7 weeks old. ††† Infant aged 31 months.

Of these 51 deaths, 20 were certainly among non-residents, and perhaps one or two more should be placed under the same heading. The death from carcinoma occurred in a female aged 39, whose left breast, then a mass of scirrhous, I amputated on the 30th September 1872. The disease recurred, and I again removed every particle of suspicious tissue on the 3rd February 1873. Within a few months, while the breast remained tolerably quiescent, evidence of invasion of the lungs was given, and the patient died exhausted on the 31st May 1874. The early age at which the disease appeared is noticeable. The only benefit derived from the operations was immediate and complete relief from pain, but no expectation of cure was entertained at any time by the patient. The mortality from phthisis appears to be increasing, but this is perhaps due to a less healthy class of men being shipped at foreign ports, and to the exposure and overwork entailed by the lessened number of hands on board many vessels. Both cases of aneurism occurred in males, one aged 29, the other 35.* One of the cases of dysentery and that of heat apoplexy are reported farther on. The case of death from nervous exhaustion occurred after premature labour at the sixth month, brought on by long continued mental anxiety and bodily fatigue. The number of deaths by drowning is unusually large. I have no particulars about any of them, but some were probably due to the unguarded pontoons. An excellent suggestion has lately been made in one of the local papers, that life lines should be attached to each pontoon and be kept near the surface of the water by means of floats. This seems to be the only practicable plan for saving persons who actually fall in, but it would be highly advisable to make the step on the face of each pontoon wider than it is at present, and to keep it repaired. The constant grinding of cargo boats against it not only wears it away, but makes what is left of it treacherously slippery in wet weather. Of the 51 deaths, 10 are uncertified, but several of these cases were buried in the Catholic portion of the cemetery. I would suggest that one or other of the Councils should keep the plans of all the cemeteries, and issue all the permits for burial. The death records would thus be rendered more complete and more readily available for reference. Out of the 31 deaths among residents, 21 were males and 10 females. Of the 21 males, 3 were infants under 3 years old, and of the 10 females 5 were within the same limit of age. The total infant mortality among residents was therefore 8, or 26 per cent. of the whole.

The following cases in hospital (native) and in private practice, will, I trust, prove interesting:—

I.—II. *Rupture of the Scrotum with protrusion of Testicle.*—During the past few years two cases of this serious accident have come under my notice. In one the sufferer was a weakly lad aged 16, who five days before he was brought to hospital had fallen down a steep step-ladder and had ruptured his scrotum high up on the left side, the left testicle immediately protruding. A Chinese practitioner was called in and applied resinous plasters to the gland. After four days, the testis having swollen very considerably, the Chinaman announced that nothing could be done and that the boy must die. He was brought to hospital next day when I found the right testis in its place, uninjured, and about the size of a hazel nut. The left side of the scrotum was enormously swollen, and the testis, about half as large again as a walnut and apparently approaching gangrene, was seen protruding, the scrotal laceration forming a tight ring compressing the epididymis and cord. Having with some difficulty got the probe point of a bistoury within the constriction, I cut down to within $\frac{1}{8}$ inch of the septum, and after freely dissecting the adhesions endeavoured to reduce the testis and draw the edges of the incision over it. This however was impossible, and I was compelled to follow the cord up to the external ring, cutting through everything to this point. The testis was now easily reduced, a small vessel was twisted, and the wound closely stitched with silver wire leaving an aperture below. The boy made an uninterrupted recovery, and was discharged in five weeks perfectly well, but with the gland adherent to the scrotum. In the other case a mafoo was bitten in the scrotum

* These cases afford additional proof that the term senile degeneration has a different application in Shanghai from that which it has at home. In connexion with the remarks on this subject to be found at page 36 of the last number of these Reports, I would cite the following extract from Dr. BRYDEN'S report on the influence of age and length of service as affecting the mortality and invaliding of the European Army of the Bengal Presidency (7th Annual Report of the Sanitary Commissioner with the Government of India; 1870; p. 250):—"The British soldier who would be reckoned young in England, is in India, an old man at 30, whether he reaches this age in the course of Indian service or lands with his regiment."

by a China pony, the scrotum ruptured, the gland, epididymis and cord severely contused by the animal's teeth, and of a deep purple colour, and the cord so strongly dragged on that the lower border of the testicle reached one third of the way down the thigh. Luckily, the patient was brought an hour or two after the accident. Following the cord up the canal I reduced it as gently and completely as possible, and then having cut down close to the septum I was able to draw the torn edges of the scrotum over the gland, securing them in position with silver wire. Cold irrigation was maintained for eight or ten days, after which there was no more pain, and the patient was discharged in six weeks, he also having of course adherence of the scrotum to the testicle.

III. *Excision of the Elbow-joint by Watson's method.*—In the *Edinburgh Medical Journal* of May 1873, as quoted in BRAITHWAITE'S *Retrospect*, Dr. Patrick Heron WATSON described a new method of excising the elbow joint in cases of ankylosis from injury limited to the end of the humerus, or of such a nature that the contemporaneous injury to the radius or ulna, or both, does not of itself demand surgical interference. The steps of his operation are as follow:—1°. Lineal incision over ulnar nerve rather longer than that usually employed in the old operation by one incision. 2°. Ulnar nerve to be turned over inner condyle. 3°. Probe-pointed bistoury introduced into joint in front of humerus, and then behind, being carried upwards so as to divide upper anterior and posterior capsular attachments. 4°. Bone forceps used to cut off entire inner condyle and trochlea, and then, being introduced in the opposite diagonal direction, to detach the external condyle and capitulum. 5°. Truncated, angular end of humerus is cleared, turned out through wound, and sawn across at right angles to axis of shaft. 6°. By twisting, aided by touches of the knife, the external condyle and capitulum are extracted through wound. The apparent simplicity of this operation and the advantages claimed for it, induced me to try it in a case of old fracture of the lower end of the humerus into the elbow joint with partial dislocation. The subject was a horse-boy aged 23, and on admission to the Gutzlaff Hospital his right arm was found strongly extended. The internal condyle of the humerus and the olecranon process of the ulna were apparently in their proper position, but the head of the radius lay on the posterior surface of the external condyle in contact with the external margin of the olecranon. The external condyle thus formed a prominence in front of the joint. The end of the humerus was thickened and expanded, and except with the exercise of much force no motion could be communicated to the joint. This seemed a suitable case for the application of the new method, which I carried out with scrupulous exactness. The operation instead of being simple, is extremely difficult, at least to one who performs it from description only. I made an incision $4\frac{1}{2}$ inches long, parallel to and immediately over the inner edge of the olecranon. The soft parts were matted together, but the bones having been exposed by careful dissection, and a thick band of posterior ligament which encircled the head of the radius having been cut through, the ulnar nerve was, without being brought into view, pushed forwards in front of the internal condyle, and the succeeding steps of the operation were taken as above enumerated. No vessel required ligature. The upper and lower ends of the skin incision were brought together with silver sutures, leaving ample space for drainage. Dry lint was applied, and the arm, slightly flexed and pronated, was laid on a pillow. Next day the axillary temperature at noon was 103.3° F. and the pulse 120. On the third day the temperature was 102.8° F. and the pulse 140. The wound was looking well. As the patient was constipated, 2 grains of calomel with 2 grains of quinine were administered every four hours until the bowels were opened, to be followed by the quinine alone. On the fifth day the temperature was normal. On the seventh day about $1\frac{1}{2}$ oz. of broken down pus and blood escaped, and on the 9th day there was a considerable escape of synovial fluid. Cod liver oil with iron and malt liquor had meanwhile been ordered. On the 10th day, there being now only a small opening through which a glary fluid constantly dribbled, passive motion was commenced, and the progress of convalescence from this out would apparently have been uninterrupted but for constantly recurring collections of the same synovia-like fluid, necessitating incisions on three occasions. Six weeks after the operation cicatrisation was complete; but there was comparatively little power over the forearm. The patient could lift it to a right angle with the humerus, but not steadily, neither could he extend it steadily, although he could do so in a vacillating manner. The condition was however slowly improving when he left the

hospital at the end of the eighth week. He was an opium smoker, and could not be induced to stay longer. On the whole, the result of the new operation in my hands was not so satisfactory as that of the old-fashioned one in which the articular surfaces of the humerus, radius and ulna are all removed. WATSON claims the following advantages: 1°. a greater amount of leverage in the forearm in consequence of the insertions of the triceps and brachialis anticus being left undisturbed; 2°. more speedy healing of the wound; 3°. less ultimate surface deformity. I certainly did not realise the first, and the second and third escaped me in consequence of the profuse secretion from the portions of synovial membrane left on the radius and ulna, keeping the wound open, and subsequently demanding deep incisions. This contretemps is not alluded to by the author of the paper, at least in the abstract published in BRAITHWAITE'S *Retrospect*, vol. 68, p. 178, to which I refer.

IV. *Traumatic Tetanus*.—A horse-boy aged about 23, was admitted to the Gutzlaff Hospital on the 22nd June 1874, with extensive abrasions of the skin of the arms, legs and chest. The entire skin of the abdomen was more or less torn, and about 4 square inches above the pubes was completely destroyed. Immediately within and below each anterior spine, was a deep lacerated wound of oval shape, through which the first layer of muscles protruded much bruised and torn for a space of about 3 inches by 2 inches. All the wounds were full of dirt and gravel which were removed gently by a stream of tepid water kept up for a considerable time. The patient had been leading a pony by a long rope, and something having frightened the animal he started off so violently as to throw the horse-boy down. A coil of the rope somehow noosed him by the chest, and he was dragged along the road for some hundreds of yards. Water dressing was applied, followed next day by oiled lint covered with fine cotton wadding. The abrasions on the arms, legs, thorax and upper part of abdomen healed rapidly, the skin above the pubes was putting on healthy action, and the wounds in the neighbourhood of the iliac spines were filled with exuberant granulations, when on the 30th June (the 9th day) loss of appetite was complained of, but there was no heat of skin or disturbance of the circulation. Next day the patient drank a great deal of milk. A little after midnight (beginning of the 11th day) he complained of dysphagia, but no report of this was made to me until my daily visit at 3 p.m. on the 2nd July. Then (15 hours after the onset of the symptoms) the jaws were firmly clenched, the abdominal recti were in a state of tonic spasm, and there were occasional twitchings of the legs. At 4.15 p.m. $\frac{1}{2}$ a grain of extract of Calabar bean was given by mouth in the shape of a small pill forced within the teeth, and washed down with a spoonful of water. This was done while a hypodermic solution was being prepared.

When jotting down the notes of this case at the time I carefully observed the quantities of bean administered and the mode and time of administration. For the following reason, the reader is spared all this detail. After the man's death, wondering that there had been no effect whatsoever produced by the drug, I got a Chinese dog weighing 35 lbs., and administered three pills each containing 1 grain of the extract at intervals of four hours. The animal was in no way incommoded, but ate and drank with great appetite. The Chinaman whom I set to watch him said that during the three days that he was under observation he never passed urine, but I am certain that this was a mistake as in no other respect did he show a trace of suffering, nor were his pupils affected. The dose of the extract is from $\frac{1}{8}$ to $\frac{1}{4}$ of a grain for an adult man, and the absence of any effect from 3 grains, upon a dog, was sufficient to show that the preparation was inert. Yet it was obtained from LEWELLYN & Co., who, for the prescription, opened a pot just received from SQUIRE of Oxford Street. It is clear therefore that it spoiled on the way out, and this suggests how advisable it is for shippers of drugs such as Calabar bean, to which one has resort in the direst extremity, to ascertain experimentally the best way of preserving the properties of extracts through the trial of a long voyage.

Suffice it therefore to say that during the next 24 hours 4 grains of the extract were given by the mouth and 3 grains subcutaneously. It was then stopped, partly because no effect had been produced on the symptoms or on the pupils, and partly because the slightest touch, even that of a fly alighting on the skin, excited agonising convulsions.

Twenty hours after the onset of the symptoms the knees were forcibly flexed, but could be extended by pressure, the neck was stiff but not arched, and violent spasms without any intervals of complete relaxation jerked the man's trunk about in bed. Up to the time of death there was no sleep in spite of $\frac{1}{2}$ grain injections of morphia administered as frequently as possible. After 39 hours there was great difficulty experienced in keeping his mouth clear of the tenacious mucus which was largely secreted, but it was not until after 42 hours that the pharynx and arms were affected, which

they were simultaneously. Water poured within the teeth was now rejected with great violence. After 53 hours it was noticed that the spasm of the jaws was not continuous, it relaxed momentarily about once in 15 seconds. Moreover the upper part of the *oesophagus* seemed free from spasm, for fluid in very small quantities visibly passed downwards with comparative ease and with a marked movement of deglutition, but did not reach the stomach, for after 3 or 4 spoonfuls had been swallowed the entire was forced back into the mouth. The convulsions ceased completely after 62 hours, but one hour and a half later opisthotonos suddenly declared itself for the first time, and was maintained for about 10 minutes. The spasm then relaxed, the hands wandered uneasily over the abdomen, and in about 10 minutes more the man died quietly. The temperature in the axilla never exceeded 100° F. up to 3 hours before death.

I had no opportunity of testing the temperature immediately before or after death. This I the more regret as WUNDERLICH states (*On the Temperature in Diseases*, Syd. Soc. Tr., p. 425) that "in the last stage of fatal neuroses, and more particularly in tetanus * * * the temperature begins to rise, and rises in the briefest space of time to extraordinary heights; to heights, indeed, which are only exceptionally reached in diseases which are of distinctly febrile origin, sometimes to 109.4° F., or even to above 111.2° F., and in one case of tetanus to 112.55° F., which is usually succeeded by a still further post-mortem rise of temperature amounting to a few tenths of a degree." On the other hand, BILLROTH (*General Surgical Pathology and Therapeutics*, HACKLEY'S Translation, p. 353) says, "I have seen cases of (traumatic tetanus) prove rapidly fatal without the temperature becoming elevated," and he gives as an extreme height "104° F., or over."

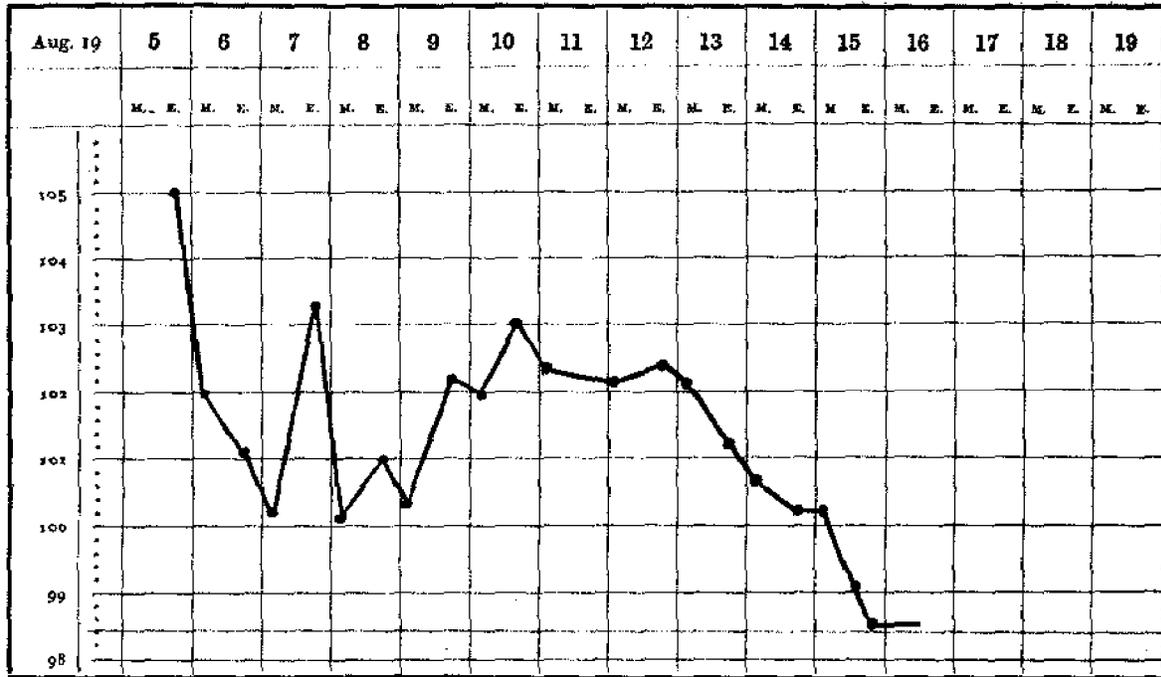
V.—VIII. *Typho-Malarial Fever*.—I give below the temperature charts of three cases* of severe fever which occurred in my private practice during the six months, and also, for purposes of comparison, the chart of an uncomplicated case of simple remittent. Of the three, the first was the least serious, but I am inclined to include it with the two others under the head of "Typho-Malarial Fever," a most useful term which has of late years found much favour in America. It seems to me to include naturally all those cases which lie on the border between remittent and typhoid, which would be considered remittent but for the marked "typhoid" symptoms, and for the less than doubtful efficacy of quinine as a therapeutic measure, and which would certainly be classed as typhoid but for the absence of eruption and of iliac gurgling and tenderness. This class is therefore conterminous with the class of "Mixed Fevers" described by Dr. SOMERVILLE in No. 4 of this Series of Reports, p. 58, and again in No. 7, p. 9. The onset is insidious. The type may at first be intermittent or remittent, but after a few days the disease becomes a true continued fever with delirium which, alternately violent and muttering, may pass into coma vigil, followed by death. The liver may be of its natural volume or enlarged and tender. There may be constipation or diarrhoea, but the stools almost always smell horribly. Fortunately many of these cases recover, and there are usually reasons against making post-mortem examinations in private houses, so that the pathological lesions are still not well made out.

In case (1) sickness began with diarrhoea after eating grapes. There was constipation on the two following days, relieved by an aperient on the 4th day, when there were violent chills, and great general malaise. On the afternoon of the 5th day, an hour after the occurrence of a severe rigor, the temperature in the axilla was 105° F. There was no tenderness or gurgling in the right iliac fossa, but a feeling of uneasiness in the abdomen. The chills did not recur. On the 6th day 11 fluid motions were passed, not "pea-soup," but very like it. Small doses of chalk mixture with opium checked this, and subsequently there was constipation. No hepatic enlargement or tenderness. From the first vomiting was obstinate, and was invariably excited by quinine in any form. This was checked by sucking ice, and by taking ice-cream and iced milk in small quantities as the sole nutriment. Quinine in 5 grain doses every 4 hours was resumed on the 9th day. There was then excessive flatulence, relieved by warm water enemata. On the 11th day the entire body was deeply jaundiced, and a small quantity of saline was combined with each dose of quinine. Convalescence proceeded without interruption from the 13th day. From the 5th to the 8th day the pulse varied between 104 and 120. The patient was quiet during the day, but was restless and delirious at night up to the 12th day of his illness. Chloral in 20 grain doses was required to produce sleep.

A comparison of this history with the chart will shew that the administration of quinine had no effect in lowering the temperature. The disease ran its course like an ordinary continued fever of short duration. The next case was of a much more formidable character.

* These cases are published by permission.

I.—TYPHO-MALARIAL FEVER IN A MALE AGED 35.



(2). A lady, quite well on the 30th September 1874, began to ail on the 1st or 2nd October. On the 4th October, she was hot and feverish without any distinct rigor. This condition continued until the 8th October when I saw her. She had completely lost appetite, was very excitable and nervous, but had been sleeping fairly well up to the night but one before, and was not anxious about herself. Rather violent diarrhoea had set in on the evening of the 7th, and it was noticed that she had wandered a little during the night, and had hardly slept. Of this she was not conscious. Temperature (10 A.M.) 104.2°, pulse 120, respiration 27. Ordered to bed immediately. Pain preventing percussion for 2 inches below the right costal border. Dulness to level of 5th rib. No gurgling or pain in right iliac fossa. No spots on abdomen. Occasional vomiting. General tympanites. Ordered a draught of quinine, hydrochlorate of morphia and hydrochloric acid, sinapism to abdomen; diet—milk and sodawater, with champagne occasionally. At noon the temperature was 105°, and at 7 P.M. 104.8°; pulse 112; respirations 24; tongue red tip and edges, moist yellow fur on surface. Diarrhoea checked. Had dozed during the afternoon, and is now muttering. Abdominal tenderness so far disappeared that the hepatic dulness could be accurately mapped out from the 6th interspace to the lower costal border.

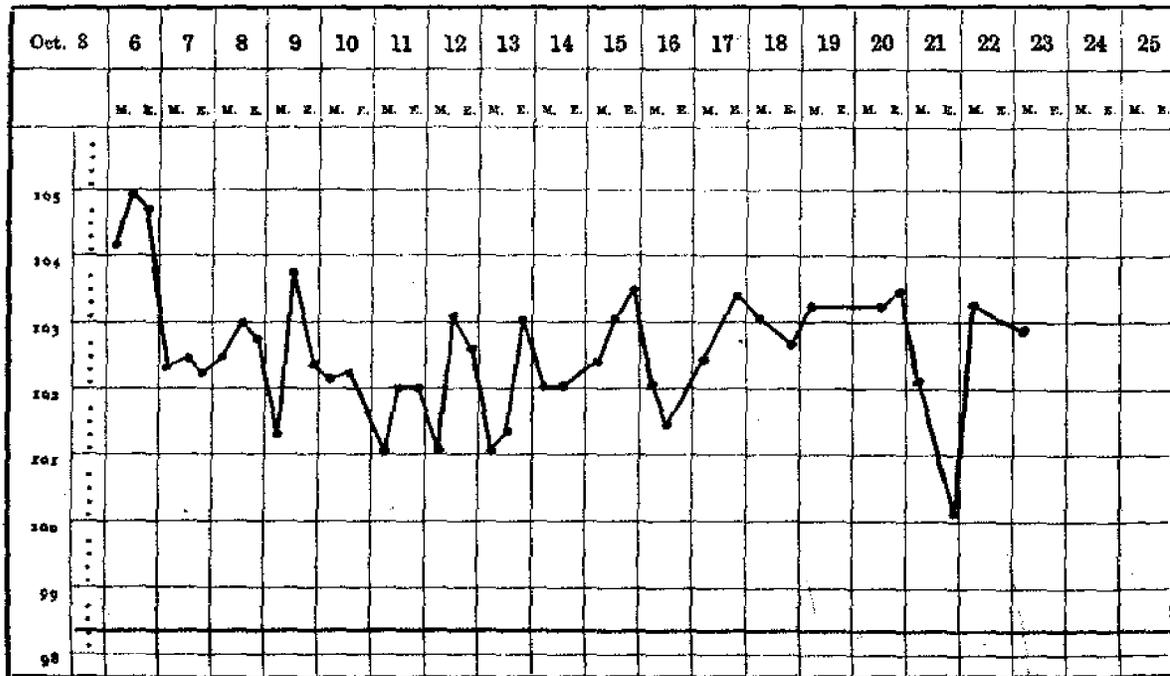
Urine:—Ordinary colour, faintly acid. S. G. 1022. Flocculent deposit. Cloudy on boiling, cleared by HNO_3 . Chlorides plentiful. The deposit consisted chiefly of stringy mucus with a large number of non-nucleated corpuscles the size of pus corpuscles, interspersed. One or two spherical, unbilicated cells full of granular matter, with a multitude of large, flat cells full of granules, and about twice the size of white corpuscles. One oval, compressed, highly refractive cell. Casts from the straight tubes, none from the convoluted.

During the ensuing week the pulse varied between 104 and 114. Quinine excited vomiting almost invariably. Milk either plain or with sodawater was tolerably well borne, and wine was given freely according to the state of the circulation. There was no diarrhoea. She absolutely refused to take quinine in any form, but drank a good deal of strong coffee which invariably diminished her restlessness. The vomited matters were yellow and intensely bitter but contained no food. Her extremities were constantly cold, requiring frequently renewed hot bottles. Muttering delirium at night. On the 22nd October it was decided in consultation, her general condition being most alarming, to administer 20 grains of quinine in enema, but this produced, or was attended by, such an increase in the prostration, and caused the temperature to oscillate so widely and so rapidly that it was not repeated. The tongue was absolutely dry, glazed, fissured, and concave from side to side. Lips bleeding from being continually picked. Teeth covered with sordes. Next day vomiting was constant, she was deaf, but answered when spoken to, her expression was maniacal, and she was violently

delirious but insisting that she was perfectly well. On the following day she was to all appearance sinking; her pulse was running, and her temperature impossible to take on account of restlessness. A couple of spoonfuls of brandy and milk was given every half hour, and an enema consisting of raw eggs, milk and brandy every two hours. At night her tongue was somewhat steadier, and there was less picking of the lips and bed clothes. The skin was cool (to the hand) and the night was spent quietly. Up to the 30th October, she remained merely alive in a condition utterly hopeless. She could sometimes be roused to put out her tongue, but often not. Nourishment was continued by enema exclusively, anything beyond a spoonful of champagne given by the mouth producing fits of retching. Occasionally she would regain her senses for a few minutes, and ask for something. The delirium was of the most violent character with terrific ocular illusions which she described with horror. Dorsal decubitus. The pulse was never below 130, and could seldom be counted. Her clothes were every now and then saturated with cold sweats. Hot bottles had to be kept round her, and mustard frequently applied over the heart. The situation was desperate, and nothing saved her but the incredibly devoted nursing lavished upon her. On the 30th (28th day of her illness) she roused, and asked for an apple which she ate with relish in small portions. As it was now possible to give nourishment by the mouth the enemata were stopped. During the next two days, though taking nourishment freely, her condition was as bad as before. She was absolutely sleepless, and was dying from nervous exhaustion. Ordered 20 grains of chloral every hour until sleep was produced. Next day her respiration was 40, blowing, from partial paralysis of the lips and soft palate. Unable to swallow. To resume the enemata. During the night the chloral draught as before was at intervals slowly poured over her tongue. Sleep was at length produced, and on the following day (32nd day of her illness) though still quite delirious, the general condition was much improved. Up to the 36th day, she had occasional intervals of delirium, but these were at once checked by a little champagne. From this time out her convalescence was uninterrupted.

This case calls for no remark on the side of medical treatment, which was almost nil. The opportunity is a good one, however, for noticing the extraordinary excellence of amateur nursing in Shanghai. Every practitioner must be struck not only by the readiness and devotion of a patient's friends so soon as the fatiguing duties of a nurse appear to call them, but by the skill and discretion with which they discharge the task they thus assume.

2.—TYPHO-MALARIAL FEVER IN A FEMALE AGED ABOUT 30.



with distinct pauses. In the axilla not tightly pressed, the mercury went up in 1½ minute to 110.4° F.—the limit of my thermometer. The internal temperature was therefore certainly not less than 112°, and was probably more. Sinapisms to præcordial region and calves; hot bottles to the feet; ice to the head, and cold affusion were tried without result, and without any expectation of result. The coma became rapidly deeper, and she died about 11 A.M. There was no post-mortem.

I entered "heat apoplexy" in the certificate, as the cause of death, and doubtless the event was at all events rendered more inevitable by the hot and stifling atmosphere in which she had spent the night. LESSER, as is well known, believes that under certain conditions a poisonous substance is developed within the body itself and produces paralysis of the nervous centres. The sudden onset of the comatose form of remittent might on this supposition account for the symptoms, yet the intense pyrexia seems more likely to have been the effect rather than the cause of the brain lesion. In that case the lesion would probably have been the rupture of a vessel in the pons, cutting off the controlling influence of the brain from the centres for chemical processes situated in the medulla and ganglionic system. A case of death with a temperature of 111° F., recorded in 1837 by Sir Benjamin BRODIE, and two cases with temperatures of 110° and 111.2° recorded by Hermann WEBER in 1868 (*Clinical Society's Transactions*, vol. i, p. 163), in all three of which there was extensive laceration of the cervical portion of the cord, make it probable that in man the heat-regulating centres lie in that region, unless, as WEBER suggests, such lesions first influence the brain, and cause the hyperpyrexia only through this. And this is the more likely as TSCHESCHECHIN's experiments on animals (quoted by WEBER, *loc. cit.*) localise the heat-regulating centres just anterior to the junction of the pons with the medulla oblongata.

X. *Dysentery, followed by cerebral thrombosis (?)* A man aged 30 who had spent several years in China, but had only recently returned from a trip home, had suffered for some weeks from foul tongue, want of appetite, constipation, diarrhoea and general malaise. He was very imprudent in diet, eating green peaches and such like. On the 18th July 1874, having then had constant diarrhoea for two days, he took five Cocker's pills, which acted very violently all through the 19th, the night of the 19th-20th and the 20th. On the evening of this day there was intense tenderness over the whole abdomen, and pain described as unbearable on light pressure in the left iliac fossa. Turpentine fomentations; a full dose of opium, and milk with lime-water. Next morning the passages were exclusively blood and mucus and horribly offensive. Constant tenesmus, and uncontrollable vomiting. Hydrocyanic acid and laudanum were given freely by the mouth; starch and laudanum enemata; sinapisms to epigastrium. In the evening the vomiting having ceased, ipecacuanha in 5 grain doses was given, but this, while controlling the bowels, caused a recurrence of the vomiting. On the 24th, 25th and 26th the stools though frequent were fecal, and contained no mucus; a little fluid blood was occasionally present. Meanwhile ipecacuanha had been given as freely as it could be borne, recourse being had occasionally to a mixture containing laurel-water, opium and extract of bark. The patient continued to improve until the 2nd August, on which day he passed three stools partly solid. No pain on pressure anywhere. He was eating rice and milk, arrowroot, beef tea, &c. with fair appetite. On the 4th August early in the morning he passed three loose stools in rapid succession, and remained quiet for the rest of the day. The temperature had been normal all along. At 7 P.M. on the 5th he was evidently sinking, pulse 132; at midnight unchanged. At 7 A.M. on the 6th pulse 150; at 10 A.M. pulse 156; surface and extremities cold. No stool since yesterday. In the afternoon he had a series of epileptiform convulsions, and at 7.30 P.M. died in a short but very violent fit which nearly flung him out of bed. Stimulants of every kind had of course been exhibited most freely, both internally and externally.

There was no post-mortem, but the symptoms appear to point to the absorption of septic matter from the as yet imperfectly cicatrised surface of the rectum or colon, and the occurrence either of general blood poisoning—rendered unlikely by the absence of high temperature—or of thrombosis of certain of the cerebral vessels.

I would here repeat what I said in closing my last report, that much would be gained by other practitioners contributing obscure or interesting cases to these pages. For many obvious reasons I am unwilling to monopolise the opportunities for publication given by the existence of these reports, and it is inadvisable that I should do so. Were it not that each case which I have here reported from my own practice presents some feature of importance I would not reproduce it, but it is evident that, were a selection made from other case books, whatever value this record possesses as it now exists, would be largely increased.

Mem.—In the *Pall Mall Budget* of the 18th December 1874, p. 21, the following paragraph appears:—

Professor HUNFALVY is a well-known learned Hungarian savant, who a short time ago was in London and present at the International Congress of Orientalists. This eminent scholar stands alone as an authority on the Turanian languages, of ten of which he is a perfect master. He prepared for the Congress an elaborate paper of great intrinsic value on Turanian subjects, but was unable to read it for lack of time. However, he read an epitome of it before the Turanian section, and then placed it in the charge of Mr. DOUGLAS, of the British Museum, for future publication in the proceedings of the Congress. In this valuable paper there are several important contributions to our knowledge of Turanian philology, but the part of it which possesses most interest for the general reader is that in which Professor HUNFALVY treats of the nomenclature of the ring-finger. It appears that in every one of the ten Turanian languages, from Finland in the west, to Manchuria, the northern portion of the Chinese Empire, in the east, that finger is known as "the finger without a name." The Professor expresses in his paper a desire to know whether such was the case also in the Dravidian family of languages, as he had found no mention of the subject in the Dravidian comparative grammar—the standard work on the South Indian languages. Strange to say, the ring-finger is called "The finger without a name" in the Dravidian tongues; but, stranger still, it appears in those languages not as a Dravidian word, but as a Sanskrit one! In Tamil, Telugu, and Canarese, it appears as *anāmika*—"the nameless thing," from the Sanskrit *nāma*, a name, with the *a* privative prefixed. Now how did this peculiar expression find a place both in the Turanian family of languages and in a family of languages so far apart from it as the Aryan? Did the Aryan borrow it from the Turanian, or the Turanian from the Aryan? Then, why should the ring-finger be called the "nameless finger"?

As referring to a quasi-anatomical matter, I shall be excused for noting here that the Chinese also call this finger, "the nameless digit," 無名指, *wu-ming-chi*. The other fingers are called respectively 大指 (thumb), 食指 (index), 中指 (middle finger), and 小指 (little finger).

The term "nameless finger" is used by MENCIOUS, Book vi., Part i., Cap. xii. 1.

Since the preceding pages were printed, I have received the sick state of the Shanghai General Hospital for the six months. The number of Europeans admitted was 183. Of these 36 were for various venereal affections, 20 were for various forms of malarial fever, 18 for dysentery; 10 for diarrhœa; 14 for small-pox (9 in April, 5 in May); 3 for typhoid; 2 for hepatitis, 3 for suppurative hepatitis, 1 for abdominal aneurism, and 7 for phthisis pulmonalis. The deaths were 17, distributed as follows:—

CAUSES OF DEATH AMONG EUROPEANS ADMITTED TO THE GENERAL HOSPITAL DURING THE SIX MONTHS.

Small-pox,	3 deaths	Phthisis,	5 deaths	Rheumatism,	1 death
Heart Disease, ...	1 "	Fever,	1 "	Hæmoptysis,	1 "
Dysentery,	4 "	Abscess of Liver, ...	1 "		

*D.—Dr. John DUDGEON's Report on the Health of Peking for the half year
ended 31st March 1874.**

THERE is not much of interest to report regarding the health of this district for the six months under review. The winter was a very mild one, with an inappreciable fall of snow. The Chinese invariably predict an unhealthy winter when no snow falls. To pray for snow is one of the duties and responsibilities of the Dragon Throne. The winter could not be said to be a healthy one. Small-pox, as usual on the approach of cold weather, prevailed among the Chinese, no doubt with its ordinary results, as vaccination is not practised owing to the native theory of its inadmissibility at that season. A few cases of diphtheria were also reported, but no case either of this affection or of small-pox occurred among the foreign population. Three of our foreign residents were subject to a kind of low fever with much prostration but rapid convalescence, and a number more were more or less out of sorts. The health of the Customs staff was excellent; only one, in the autumn, was laid down with continued fever, brought on by over-fatigue and exposure to sun and rain. He spent a whole day in wet clothes and afterwards rode home a distance of ten miles. There were five deaths, two adults, both French, and three children, one German and the other two American, during the period, an unusually large number, but excepting one case (remittent fever), none could be said to be due to climatic causes.

Of the adults one had been resident here for 7 years, and latterly had fallen into very intemperate habits, and was ultimately carried off by phthisis. The other adult was a Catholic priest from the north of this province, who died on the second or third day after his arrival and before medical aid was asked. He is supposed to have died either of angina pectoris, pleurisy or pneumonia. No post-mortem examination took place so far as I know. Of the three children, one about a year old, and very delicate from birth, is reported to have died of marasmus or infantile consumption; one, not quite a month old, and also delicate, died of jaundice with obstruction of the bowels, and the third was a boy of 3 years of age, who died of remittent fever. I should mention, as embraced in the same period, the birth of six children, three boys and three girls, one of the cases being a primiparous twin birth of boys. The labour, as frequently happens, was premature; the second child was born twelve hours after the first and presented with the feet—the first was a head presentation. The second, as was feared, was still-born, but by dint of active measures, was resuscitated in about an hour, but lived only six hours afterwards. The death is not reckoned among the number for the six months. In the spring there was, as usual here, a good deal of mumps, inflamed tonsils, sore throat and the like, caused by change of weather and our cold N. W. winds. Ague prevailed with great force till the end of December; in this month there was a considerable falling off compared with the previous five months, but it was not till January that the great diminution took place. The percentage of ague patients at the Peking Hospital was on the aggregate of patients as follows:—for October and November each about 20 per cent.; December 6 per cent.; January and February each 2 per cent., and March $\frac{1}{2}$ per cent. From this period the numbers begin again to rise, April corresponding with January, May with December, and so on till the maximum is reached in August and September and then again a gradual diminution. FOWLER'S solution and quinine were extensively used. A few cases were found in which quinine proved of little or no service, or if the symptoms were checked, it was only to return again in a few days. Dr. JAMIESON did well to expose the importation of spurious quinine at Shanghai. Nothing is so likely to bring contempt upon us and our medical science as the sale of adulterated and spurious drugs, and especially

* This Report was received a day or two too late for appearance in the last number of these Reports.

quinine, of which the Chinese have already a very exalted and just appreciation. It is to be hoped that strenuous measures will be adopted to prevent any non-genuine article from coming into the market. In order to make the fact as widely known as possible, the writer published an article in *Chinese in the Peking Magazine*, No. 29, on the virtues of quinine, and pointed out the danger from the imported spurious article, based on Dr. JAMIESON'S report which appeared in the *North-China Herald*.*

Peking in relation to Life Assurance.—The ports of China, according to the Standard Life Assurance Company, are divided into three classes. Those in the first class include Chefoo, Tientsin and Newchwang; those in the second class, Shanghai, the riverine ports and Ningpo, with the treaty ports of Japan; and in the third class, the southern ports of China, including Peking. In reply to letters from persons in the North of China interested in the subject, pointing out what was doubtless a geographical mistake, and informing the home authorities that the capital was distant from Tientsin only 80 miles, and was consequently not in the south, such persons have been assured that Peking was not placed under class C. through inadvertence but after deliberate consideration. Before the ports were divided into these groups, the advice of competent persons connected with China, civil and medical, was sought, the records of hospitals searched, and indeed every means taken to ascertain as far as possible, without having the aid of statistics, the death-rate in these districts, to which their business was extended. In consequence of statements made by, amongst others, a most competent medical man who resided long in China, to the effect that the sanitary conditions are most defective, as is shown by the continuous prevalence of typhoid fever and diphtheria, and that no improvement in the local conditions is likely to take place, as the foreign residents are scattered in houses among the native population and not aggregated in a distinct and separate community as in the other seats of European settlement, the Company resolved to class Peking with the southern ports.

I admit the above general statement as true of Peking, but as a medical man who has resided nearly 12 years in the capital, being the oldest medical and the oldest continuous civil resident, and upon whose Reports most probably the medical adviser to the Edinburgh office based his views, I think some explanation is needed. I have already (*Customs Medical Reports*, Nos. 2 and 4) treated at some length of Peking, its climatic conditions, physical features, drainage, water supply, cemeteries, population, mortality, meteorology, &c., and the general habits of the people as bearing upon health. It will therefore be the less necessary that I should here dwell minutely on the subject in relation to Assurance Societies. These volumes and the various annual Hospital Reports may be consulted to bear out the views which are now advanced. I will confine my remarks mainly to an explanation of the points raised by the Company as noted above, showing the conditions here in relation to those places mentioned in the B. class, (including Shanghai, charged under class B. with an extra rate of $\frac{1}{2}$ per cent.) with which I am more or less acquainted and which I have visited, the relation of the foreign residents to the native population, and lastly, the conditions prevailing which are supposed to shorten life, points which formed the basis of the Company's classification.

And I will begin with the statement last mentioned, that our defective sanitary conditions are irremediable, because we live not in a distinct and separate concession but in the native city and consequently among the native population. Suppose we admit all this, as we most readily do, the inference of its being

* In the *British Trade Journal* for January 1875 Messrs. BLADEN and ANGUS of London, referring to the article in the *North-China Herald*, make the following statements:—

"The spurious article referred to is, we are afraid, much more frequently substituted for the true one than consumers have any idea of.

"We recognise the article described as having been imported into Shanghai as identical in respect of labels, marks, &c., with a sample put into our hands a short time ago by a highly respectable house here.

"This sample had been sent to our friends by one of their Indian correspondents with an order for a large quantity. We submitted the sample to Messrs. Howards & Sons, and it was found on examination not to be sulphate of quinine at all.

"Of course our friends refused to execute the order, but there is little doubt that it was executed through another channel, and possibly in perfect good faith so far as the exporting house was concerned, although the price at which the article can be bought should arouse suspicion."

unhealthy on this account by no means follows. Most of the foreign settlements in China may be said to be distinct and separate. Peking is the only place of foreign residence where no settlement of any kind exists, and for this two reasons may be assigned; it is not a port and is only open as a place of residence to the foreign legations, and the condition of the city, bad as it is, did not seem to necessitate a concession. If it had been considered indispensable, is it to be supposed that immediately after the war such an arrangement could not have been easily made? No, the native city itself was not objected to on this ground, and so our ministers accepted palaces in which to house their legations. A distinct settlement was never dreamt of here, just as permanent residence in the native towns at the open ports was never dreamt of there. Our Legations, Customs Inspectorate and missionaries, and these constitute the entire foreign population, do not leave behind them their Western ideas of sanitation and comfort. They cling with as much tenacity to health and life and comfort as other foreigners, and still they are not unwilling to live in the heart of a large Chinese city. As far as easy access to the hills, the surrounding country, green fields and fresh air, was concerned, a residence outside the city is certainly to be preferred; but who if he had his choice in any of our large home cities would not desire the same?

But what are the boasted distinct and separate so-called concessions at Shanghai, Chefoo and Newchwang and even Tientsin? If not originally joined on to the native town, business has brought large numbers of the natives as permanent residents, calculated to be at least 70,000 last year on the British and American settlements, besides daily visitors, into the foreign settlement at Shanghai, or to the edge of it as at Tientsin. The foreign quarters at Chefoo and Newchwang are simply continuations of the native town, where it can hardly be said there is a separate concession. Moreover, at Shanghai, and to some extent also at Tientsin, one extremity of the foreign settlement is situated just outside the walls of the native city, close to the moats, ditches, creeks, manure heaps and graves which are found outside the walls of all Chinese towns. As far then as a mere concession is concerned, in relation to its proximity to the native city with all its well-known abominable filth and stinks, or to the native population living in its midst and carrying among its hongs and through its streets all sorts of contagious and infectious disease, Peking, in a sanitary point of view, notwithstanding the absence of a concession, will bear favourable comparison with any other place in China. Of course I do not speak here of municipal regulations and their value. These were absolutely indispensable at most of the open ports for the cleansing, drainage, lighting, road making, water supply, &c., &c., of the settlements. But I believe the defects in these respects are not the direct or immediate main causes of fatal diseases in China, but the propagation from the native population of the zymotic diseases which infect them. I argue, therefore, that the mere allocation of a piece of ground to foreigners on which to build houses and live and carry on business, argues in itself neither one thing nor the other in relation to Peking. There must be other, more evident and more unmistakeable causes adduced for the preference given to a concession.

Again, however bad a concession may be originally, and we know the Chinese gave always the least valuable land, marshy, waste, unused land, while for purposes of trade and foreign residence this land required to be within a certain reasonable distance from the native cities, the local conditions were in our hands always likely, nay we may say certain, to undergo improvement. Necessity was laid upon residents at the ports, and hence at the present time such model settlements as at Shanghai and other places. We must therefore take into account the absolute need for the establishment of municipal government with all the varied appliances which obtain in western cities and in many cases at very great expense. But here we dispense with these and other useful appliances. If we do not need them, surely our Assurance Companies will not compel us to adopt them for the mere sake of uniformity with other places of residence, when the other conditions by which we are surrounded are not equal. Every legation and private residence may more or less be said to be in itself a settlement, of which the occupant is the municipal council and medical officer. He looks to drains, proper ventilation, garbage, water supply, fresh air, &c. What is beyond his control while lying in his neighbourhood is wisely arranged for by an unerring economical and suitable Municipal Council. Manure of all kinds is so valuable that large numbers of our population obtain

a living by collecting it; hundreds of carts are daily engaged on their own account for purposes of agriculture and improvement of land, in carting refuse, dust heaps, &c., out of the city, and this is carried to such an extent that every now and then it requires to be forbidden and the city gates closed against such wholesale carting, to prevent the city sinking below a certain level. So anxious are farmers to obtain manure that they are willing to pay a considerable subsidy to the city gate-keepers to be permitted to carry on the trade. Besides all this we have our horse dung and human excrement collectors, our rag and paper gatherers, we have our beggars, dogs, pigs, buzzards, crows, &c., as voluntary and constant scavengers. And if this were not enough, nature steps in to our rescue and assists us. Our soil is sandy and extremely absorbent, and impurities which could not be tolerated in other places may be perpetrated with impunity here. Other reasons will be shortly alluded to in relation to weather, temperature, &c.

Again it is said that we are "scattered in houses among the native population." This remark is true, as already hinted, to a large extent of Shanghai and I suppose of some other of the European concessions. In relation to Peking this statement is worth very little, for the capital is, without exception, unlike all other Chinese cities. The picture formed by foreigners who have not visited the Northern Court, of Chinese houses, streets, towns, &c., is correct, and the establishment of concessions everywhere only proves this point. But in Peking all the ordinary conditions of Chinese towns are to a large extent reversed. The city is well laid out, the streets are from 100 to 200 feet broad in all the great thoroughfares running N. and S., E. and W., and our lanes are superior in width, cleanliness and appearance to the best, cleanest and broadest streets of any of the three northern ports. It is in these lanes that the wealthy and official classes reside, and it is this that to a casual visitor or observer gives a meanness to the capital. These lanes contain some of the largest, snuggest, prettiest, most picturesque places of residence in Peking. They admit everywhere of two carts, often of three, passing each other, besides large cart stepping-stones at each door, and other kinds of curb-stone, to keep the traffic as far as possible off the private entrances.

The houses of the better classes, and this includes the houses occupied by foreigners, are lofty, of one story only, and the principal houses are invariably laid out facing the south, a matter of great moment in winter, and have verandahs, a matter of equal importance in summer. The arrangements of the houses, required by their style of architecture and the family relations, necessitate numerous courts, and so it comes that a single family with its servants may occupy an area of one, two or more acres, a large area with a very sparse population. I need not dwell upon this point; suffice it to say that in other Chinese towns the streets are the merest lanes, hardly permitting two sedan chairs to pass comfortably, the houses are small, closely built together, and in many cases of two stories; there are no wide courts, and the courts that do exist are small and dirty in the extreme; everything conveys to the mind the notion of squalor, filth, wretchedness, overcrowding, defective ventilation, foul air and pestilential odours. But not only the plan of the streets, houses and courts, but the houses themselves are small and meagre. Nothing more mean can be conceived than the small one storied houses of Chefoo, Newchwang and Tientsin. The better class of Peking houses, and this is a very large class indeed, are commodious and airy and would compare favourably with western houses. I would not change my own house for anything I have seen in any of the concessions. Thus the city is remarkable for its wide streets, the large space occupied by the residences of the princes, high mandarins, and foreign ministers, the numerous temples that adorn it, especially those of Heaven and Agriculture, the large open spaces shewing the dilapidation and decay of the city now as compared with former times, the lakes, palaces, palace gardens, Prospect Hill, &c., &c., and these are all within the walls. Three of our foreign Legations occupy as much space as the foreign concessions of Chefoo, Newchwang and Tientsin, and are surrounded by squares, or empty spaces, or Imperial Repositories, Boards, Colleges or Yaméns of equal if not greater extent. In 1865 I moved the hospital from the British Legation, whose tenant it was, to a more commodious and suitable locality, chiefly on account of the quietness and retired nature of the foreign quarter. The three Legations just alluded to contain about three-fourths of our foreign populations, exclusive of the American missionaries.

Let us, even at the risk of slight repetition, glance for a moment at two or three of the more important sanitary considerations, in which Peking contrasts favourably with other native cities. And first, as regards drainage. All Chinese towns open to foreign trade may be broadly stated as devoid of drainage. Although favourably situated in respect of having the sea or a river into which to drain the city refuse, we find it collected on the streets or running on to waste land or into the city moat or other ditches, but these last do not always connect with the sea or river. Tientsin during its foreign occupation had an outlet made from the city moat to the Peiho, but after the withdrawal of our troops, it relapsed into its impervious condition. There is nothing in the capital to compare with the city moat on the side facing the foreign concession; inside the city are vast plots of abominable filth, such as are nowhere to be met with here. Need I refer to the vast expanse of country inundated at and around Tientsin; the impervious moat of SENGKOLINCHIN'S mud wall which surrounds the foreign settlement at a distance of a mile, and the whole enclosed space right up to the back of the concession or Taku road, being, when not under water, one vast cemetery studded over with mounds, the graves often yawning, either through long exposure to wind and rain or the ravages of dogs, foxes or pigs? In the immediate vicinity of the settlement are immense pits, several feet deep, the earth having been taken to raise the concession, and these pits are filled with stagnant water all the year round, the ends of coffins sticking out in all directions. I have myself collected human remains on the surface of the ground within a stone's throw of the foreign quarter. In one sense it might be said of the residents at the ports that they live in the midst of a graveyard. At Tientsin, Newchwang and Shanghai the foreshores are very considerable, and in the summer at low water foul smells and malaria are inevitably generated.

Chefoo is a mere dirty big village. The streets (or rather the street, for it is almost entirely composed of houses arranged along an irregular country road, skirting the sea) are narrow and filthy, and the fluid refuse that escapes runs towards the sea, and makes that part so unpleasant that the fine sandy beach beyond, reaching round towards the Chinese Chefoo, is almost inaccessible to foreign residents at Yentai. Behind the town, on the south side nearest the foreign quarter, the solid part of the refuse is laid out to dry, and this to all but pigs is anything but agreeable or wholesome.

In regard to Newchwang, the foreign houses are well situated at the extreme upper end of, but joining on to, the native village of Yingtze or port of Newchwang. In the rainy season the streets are impassable from mud. The Liau, on the left bank of which the port is situated, is a noble and rapid river. Yingtze resembles Yentai in size and in having only one street, about 20 feet broad, running through the whole extent of the village.

Shanghai is well known and well represented medically; it is therefore perhaps unnecessary that I should touch upon it. By its enterprise it has gained for itself the title of "model settlement" and is probably in importance and appearance the first place of European residence east of Suez. But with all its energy and spirit, we have a few things against it. Examine the hospital reports, the reports of the medical officers to the Customs and Municipal Council, and the picture is not without its dark side. Dr. HENDERSON, medical officer to the Council, deals forcibly with the leading sanitary questions in his last report; stress is laid on the occurrence of typhoid fever, 1 among 54 deaths of residents and 1 among 36 of non-residents resulting from this disease. Regarding the condition of the drains, it is asserted that effluvia have been observed to arise, and masters of hongts are requested to see that their back premises are kept clean. Objection is raised to the construction of slaughter houses on the present site, where the soil and surroundings are saturated with filth from past years' operations. The deposit of garbage on low-lying lands within the settlement is very rightly objected to. Anyone passing by a "bed" of this rubbish can appreciate the reason. These are jottings from last year's pamphlet.

From the various Customs Medical Reports of Shanghai we are able to cull a few things bearing on this point, which may not be out of place here in a comparison of the two places, and as helping to fix the grouping of Peking in its proper and geographical class. It may be said that depreciating other ports does not make Peking better, but my object is to show that we are not so bad as represented, and that the classification is altogether too arbitrary, and hence the grievance of policy holders here.

Dr. JAMIESON tells us that the surrounding country is alluvial, and intersected by numberless creeks, that rice is grown extensively, that the numerous natural swamps are therefore supplemented by fields artificially filled with water, that a large extent of land close to the settlement is thus periodically submerged, a condition in itself highly unfavourable to health, and that the fields, too, are plentifully manured with night-soil. If it be true there that owing to the great deodorising, absorbing power of earth, *effluvia soon cease to be given off, à fortiori it is true here where the soil is drier and sandier.* Again the flatness of the settlement renders efficient drainage all but impossible. Notwithstanding all the care of the authorities to prevent night-soil reaching the drains, the filthy habits of the Chinese allow vegetable refuse to collect, part of which is carried at the first rain into the sewers; and so much is this feared that the principal sewers are obliged at intervals to be opened to remove accumulations. The creeks drain the up-country villages and fields; the foreign and native shipping, and the ditches of the native city, which are partially washed out at each time of spring tides, all add their quota to contaminate the river, the only source of water supply. Suppose cholera, typhoid fever, or dysentery to prevail in such a district, and this is a true picture of Tientsin also, we can imagine the results. Again the foreshore, left wet by the retreating tide, covered with moist refuse and acted on by the summer sun, is also doubtless a source of danger to health. I am glad to learn that land of this sort is gradually being reclaimed by the Municipal Council.

Now in Peking we have a system of drainage several hundred years old; two drains in all the great streets, one in each lane, which drain into the moat. It is true many of them are broken down and others are impervious, but still a large number fulfil in some measure, though rather slowly, their original object. The moat, however, is on the whole clear, and barring one or two places between the two cities, where refuse is thrown in close to the gates, there is a perpetual stream of pure water running through the moat on all sides of the city; in some places sufficient to float boats and in winter to admit of extensive skating and sleighing. I have ridden through every part of the city and suburbs, and there is only one place, known to all foreigners, where the olfactory nerves are brought unpleasantly into exercise.

Then as to water supply. Shanghai, the River ports, Tientsin and Newchwang draw their supply from the rivers upon which they are situated. Shanghai and Tientsin, of those known to me, are situated below the native cities, and of course much of the filth of the native quarters finds its way into the rivers. At Tientsin many of the public places of resort are on the river bank, and at both places the filth from the foreign and native shipping flows past the foreign concessions, contaminating their water supply.* The settlements are so close to the native cities that the water has no time to get purified. It therefore requires to be manipulated in various ways, passed through filters, allowed to settle, or boiled, or the organic matter is precipitated by chemical agents, alum being in most common use. The original badness and filthiness of the water has frequently been made the pretext for indulging only in various medicated waters. And we know that these waters in this climate, with the concomitant high living, have had a great deal to do with our high death rate in the past, while their influence is not by any means to be despised even at present. Or as I have heard it very forcibly put, and attributed to an Irish medical man—"People come to China and they eat and they drink and they drink and they eat and then they die, and afterwards write home that the climate killed them."

But all this is different here. There is abundance of the very purest water led from the adjoining Western hills and the Summer Palace gardens to Peking, which flows round and through many parts of the city, filling the lakes. The ice used in summer is from this water, and is of the purest description. Besides, there are wells all over the city, one or more in every compound of any size—there are three within my own grounds—and everywhere in the main streets there are wells at short distances for watering animals, and supplying the inhabitants who have no wells of their own, with water. Although hard and brackish for the

* In his Report for the half year ended 31st March 1872, Dr. JAMIESON says: "It is a significant fact that out of 10 deaths 7 were due to dysentery, 1 to typhoid, and 1 to suppurative hepatitis," and adds—"no stronger comment could be made upon the Shanghai water supply."

most part, the well water is very palatable and is used for all culinary purposes. For infusing tea and drinking purposes, a sweet water is used which is brought in carts from certain famous wells, and sold to the people at a cheap rate. In the west of the city, and still more as we proceed towards the Western hills, all the wells contain sweet water. Here, as elsewhere, the Chinese almost exclusively use boiled water, principally for making tea, and although the water is hard, containing a considerable deposit of lime when boiled, I have never observed any bad consequences arising from its use. Calculus is not known here. There is abundance of water in the driest seasons. These wells are 30 ft. deep and never freeze. In the non-rainy season the streets are watered chiefly from these wells, at other times from the water lying in pools at the sides of the road, and also from refuse water stored up during the day in private houses or shops on the great thoroughfares. The latter practice is one of the most objectionable things about the capital, but as I shall show immediately, it is far less injurious than would at first sight be imagined, and than would be the case if the conditions were different.

This leads me to speak of the sandy, absorbent nature of our soil, of the dryness of our weather, there being usually seven, sometimes eight or more months of the year when we are entirely without rain, and of the very moderate snow-fall, which is frequently *nil*. The water with which the streets are watered is readily absorbed. The watering is performed late in the afternoon or towards sunset. After sunrise the streets are nearly as dry as before. The time of day mitigates the evil to some extent, and before morning there is time for the water to be completely absorbed. So dry are the streets that even in summer after heavy drenching rains, the roads are fair on the second day, and, if there be wind, dust will be plentiful on the third day, after a fall say of two or three inches, and then the streets must be daily watered as before until the next rain. So much for the absorbent nature of the soil, but it also partakes of the nature of a disinfectant. Now at many of the treaty ports this condition of things could not be endured for a day, on account of its leading to dangerous results, while here it is practically innocuous. Then again, our thoroughfares it is true are our public latrines, but owing to the high value placed upon manure, and the poverty of the people, the excrement of the lower animals is collected by day and human fecal matter principally by night. The latter is for the most part carried outside the city, where it is dried and pulverised; the former, especially horse dung, is dried for argol in the vacant spaces in the city. The privy system therefore prevailing in Peking may to a large extent be considered the dry earth system. Dr. BARRON, in the first of the Medical Reports, alleges that the healthiness of Shanghai is owing in a great measure to the absence of waterclosets in the dwelling houses. This is still truer of Peking, where we have large compounds and courts, and where the watercloset is quite apart and at some distance from the dwelling house. At the ports where there are fewer poor, where wages are higher, and facilities are fewer, it would not pay to collect dung and refuse so assiduously.

Next to drainage and supply of water, the climatic conditions by which we are surrounded have a vital connection with health. Our hot weather lasts only six weeks, and during that time the thermometer is never more than three times above 100°. Owing to the dryness of the atmosphere and the soil permitting little or no evaporation, our heat is never oppressive. There is not more than one night during the whole season, and often not that, when it is difficult to secure comfortable rest. During the very hottest times a blanket can always be used as a covering. The days may be very warm but the nights are always cool, never less, frequently more, than 20° of difference between the maximum by day and the minimum by night. Our intensely cold weather is likewise of very short duration, not more than a very few days during the winter; the days are pleasant, nay warm, although the nights get down to 3° and 5° above zero F. Moderately cold weather lasts for about four months. Our temperate weather, including spring and autumn, embraces at least seven months. Our rainfall, excepting during the last three or four years which have been unusually wet, never exceeds 26 inches per annum, in this respect resembling North Germany. North-west is our prevailing wind and it invariably clears the heavens and gives us bright skies and warm sunshine, and drives away all noxious vapours that would be likely to collect. Our sky is as a rule bright, there are few dull, foggy or cloudy days.

Under this head nothing can be said against Newchwang, which possesses even, if anything, a better climate than Peking; its winters are much colder, and of longer duration by one month or more, and its summers are even shorter and cooler. The N.W. wind there is very sharp, and during its prevalence would send the mercury down to 10° below zero. Snow is also pretty abundant. Tientsin is not greatly different from Peking or Newchwang. Peking has the benefit of a much drier soil than Tientsin, and has the protection of the range of hills to the north and west, distant respectively about 30 and 10 miles. Tientsin is quite exposed on a vast plain. The cold at Chefoo as well as the fall of snow are both very great. The harbour remains open all the year through. When it blows from the N.W. it must be intensely cold and disagreeable at Chefoo, as by the contour of the hills the town is situated as it were at the mouth of a funnel.

Let me add one word as to our foreign population here as compared with the ports, in which the advantage if any is on our side as to conserving health. The mode of life which obtains here is quiet and non-exciting. There are no special precautions required regarding the sun and malaria. Ague, until the late unusual rainy seasons, was almost unknown, and sunstroke is not at all known. The residents are well housed, as I have already indicated, and their means enable them to live well. The seductive cocktail and other popular beverages are practically unknown; all are engaged in their various avocations, study, &c., during the day. Foreigners live a good deal apart and scattered, and in the afternoon prefer taking a ride to meeting round the social glass. Our residents are composed of the diplomatic, the Customs and missionary gentlemen. No merchants and consequently no hongs exist here. Society is so small and so select that in the various walks of life the greatest circumspection and decorum have to be observed. We are not without the refining and elevating influences of high-toned women, of whom there are not a few.

In consideration of the various safeguards here implied rather than expressed, I believe that the influences calculated to shorten life are at their minimum as compared with the ports. This subject does not permit of further treatment in this place; enough that the general bearing of the question upon health be indicated. Then again there is ample scope for horse exercise; we have skating in winter, and a nice retreat to the hills in summer, the advantage of which change during our two most unpleasant months cannot be too highly extolled. And, moreover, there are the experience and testimony of our residents as to their health here compared to what it was at the ports or in Europe and America. In this particular Peking is highly favourable. I have heard, and in my position I have ample means of hearing and judging of such statements, from large numbers that they never enjoyed better health, that in Europe or the United States they never knew what it was to be a day well, and here a day ill. Some Missionary Societies in the south have established mission stations here with the view of having at the same time the advantage of a sanitarium for their southern brethren. Not a few missionaries have made a trip here for the good of their health in preference to the longer and more expensive home one, and especially is this advantageous if the missionary be young or have too recently arrived from home to think of returning. I know one lady who was obliged to leave Shanghai on account of her health, and for fourteen years resided apart from her husband, who was in Peking. She was never well and was of course afraid to return to China. She was finally persuaded to try Peking, and she has never enjoyed better health. I might adduce numerous cases of this sort. No resident here would voluntarily change to a residence elsewhere, Tientsin, Newchwang and Chefoo included. The universal desire of the Legation and Customs gentlemen who have gone from us to the ports, is to return. There is no place in China like Peking, seems to be the thought uppermost in their minds. Our residents laugh at the idea of the Assurance Companies placing Peking among the southern cities, and attribute it to the gross ignorance which obtains at home on all Eastern questions. The average length of missionary life here has been, from tables I have calculated at great trouble and considerable expense, 25 to 26 years. What other place can show such a result?

This brings me finally to speak of the prevalence of typhoid and diphtheria. Both diseases exist among the Chinese, and are the cause of much of the mortality. Diphtheria, common here, does not seem to exist in other parts of China, although similar conditions certainly exist. I have not been able to find any explanation of this phenomenon. No foreigner, if two doubtful cases among children be excepted, has ever been attacked with this severe malady, and of course no one has died from its effects. I cannot, I freely confess, speak so favourably of typhoid fever. By a reference to the Medical Reports (No. 4, p. 33) it will be observed from a table of mortality extending over 12 years that to typhus (typhoid) were due 17 out of 59 deaths, which is certainly large; 12 of these were Roman Catholic priests and sisters (7 and 5 respectively) who mix very freely among the people, indeed who make it a part of their office to seek out and visit the sick and dying, and doubtless this may account for the greater mortality among them from this cause. The numbers are too small and the period of time embraced in the table is too short to admit of reliable conclusions being drawn from them. Perhaps a fairer estimate of the death-rate from this disease may be drawn from the British, American and Russian statistics. The death of 2 Russians in 10 arose from this cause during the 12 years under review. No Americans whatever, and they number about a quarter of our population, the greater number being male and female missionaries, and as a class with not very robust or vigorous constitutions, died from this cause. Of the British and American deaths together for the same period, out of 23 deaths, 3, all adults, arose from this cause, 1 being extremely doubtful, the person being in perfect health and struck down in three days. For further particulars I refer the reader to the above Report and to the first part of the same Report in No. 2 of the Series.

By way of comparison let me adduce a few facts from Dr. JAMIESON'S Reports. In that for October-March 1872-3, from tables admittedly defective, he gives 4 deaths in 50 for the half year from typhoid fever. He remarks, "typhoid fever is rising into importance." Upon more closely examining the table it turns out that the 4, the entire number admitted for typhoid, died in the General Hospital, which shows 4 in 24 deaths in that establishment for the six months. In August 1873 there were at the same hospital 3 admissions for remittent fever (1 fatal), 1 for typhus (fatal) 6 for typhoid (none fatal). In the summer six months of 1872, 5 out of 63 deaths among foreigners were from typhus fever.

There remains only one point more, and that is that the classification of the Assurance Office was the result of advice tendered by a most competent medical man who had resided long in China. I have grounds for believing that their medical adviser was some 10 years in Shanghai, and merely paid Peking a visit. Against his opinion I have to put the evidence of a medical man nearly thirty years in China, and who lived at Canton, Shanghai and for a few years at Peking, and whose opinion is most valuable. I have in the Report above referred to quoted from this medical man in reference to the climate and healthiness of Peking, and therefore his views, which are also my own, do not require re-introducing here.

I have thus attempted to show that the location of Peking in the southern group is a mistake, and that the extra rate of premium demanded of life policy holders is out of proportion to the risk involved. This subject has also its bearing upon pensions to government officers. I was induced to prepare this note by repeated representations made to me on the subject by residents here interested in the question.

Chinese knowledge of Iodine.—Iodine and some of its various preparations enter largely into medical practice in China as at home. My attention has been called to the description in Chinese books, the *Pen-tsoo* particularly, of various species of seaweed, noted as possessing strong and well-known therapeutic properties. The Chinese in this respect are not behind many other maritime countries in the discovery of the virtues of seaweed in the discussion of hard tumours, goitre for example. They have long been acquainted with its general properties, and mention various kinds found along the coasts of the Eastern sea, on the coasts of Corea and the Malayan Archipelago. The chief species mentioned in their great Herbal are the following:—*Hai-tsoo* (海藻), *kwen-pu* or *lun-pu* (昆布 or 纶布), *hai-tai* (海带), *hai-yün* (海蘊), *shui-sung* (水松), *shih-fan* (石帆), *yueh-wang-yü-swan* (越王餘算.) The poor people in Shantung and other of the coast provinces eat it plentifully, both medicinally and as a vegetable, besides using it as a manure. It is prescribed alone, chiefly as tincture, its saltish taste having been first washed away, or it is mixed up with

other medicines in various prescriptions. Their books speak in the most positive manner of its discutient properties. Of the *kwen-pu*, it is stated that tumours as hard as stones can be softened and removed by it. The first three substances mentioned are highly spoken of in this respect. The first is compared to a horse's tail, and of a black colour, and another sort has large leaves quite unlike hair; the former grows in shallow, the latter in deep water. Another species which has still larger leaves is brought from Siam. The Siamese when they dive for it have a rope tied round their waists, and in the fifth month it is not obtained, because at that season the sea-coast is infested with a fish (shark?) which devours people. The uses to which these various kinds of seaweed are put, correspond with the uses to which one formerly put burnt sponge and other sea productions before the discovery of iodine. The Chinese for centuries have prescribed it in swellings and tumours of all sorts and in all parts of the body, such as inflammation of the glands of the neck—horse-knife necklace or serpentine tumours, which they suppose to be swellings of tendons—of the abdomen (constant but moveable tumours), and growths of any kind anywhere under or in the skin, orchitis, &c. They prescribe it also as a diuretic, (how remarkable that they should have observed this action), and extol its efficacy in the department of demonology, asserting that it is capable of driving away any number of demons. The Chinese in medicine as in everything else unite fact with fable, science with sorcery. It is recommended in sighing, in various genital affections, especially enlarged testicle, in indigestion, in all sorts of hard, cold, chronic tumours that never suppurate. It causes penile erection. It is eaten as an ordinary vegetable by those living on the sea-coast, especially in the south, but if long-continued, disease is more readily induced. As a specimen of their prescriptions, and to show how the seaweed is used, I subjoin two, any of the species being employed, although the two former are considered the more powerful.

R. Hai tsao, 1 catty.

Spirit, ... 2 sheng.

To be put in an open bag and digested for two days in spring and summer, and three days in autumn and winter; about an ounce is to be taken three times daily. The marc is to be dried and powdered, and a drachm or two of this taken as above. This remedy is so efficacious, that it need not be made more than twice. The above is a prescription of the 13th century.

The following is several hundred years earlier:—

R. Hai tsao 1 tael.

Hwang-lien (黃連, *justicia*) 2 taels.

Grind to powder and eat it regularly, avoiding fatty things and things difficult of digestion.

As a diuretic the following is the prescription:—

Kwen pu 1 catty.

To be digested in a kettle of rice water, and then cut into slices, again digested to a pulp, to which salt, vinegar, soy, orange peel, &c., are added. In glandular swellings it is recommended to suck or chew the seaweed, and when dry to throw it away.

From a consideration of the Chinese use of laminaria one or two thoughts suggest themselves. Considering the high price of iodine and its preparations, and the disagreeableness and occasional indigestibility of cod-liver oil, which has been supposed to owe a part of its virtue to its iodine combinations and cognate principles, would it be advisable and advantageous to introduce a tincture and a powder of laminaria into our public dispensaries, poor-houses, &c.? Is the Chinese contra-indication of fatty things well founded? After a course of iodine or its preparations, are other diseases more easily induced?

ABSTRACT of Thermometrical Observations, from 1st October 1873 to 31st March 1874.

1873.	MAXIMA.		MINIMA.		AVERAGES.		RAINFALL.		SNOWFALL.	
	Day.	Night.	Day.	Night.	Day.	Night.	Days.	Amount.	Days.	Amount.
October,	76°	55°	51°	35°	64°	45°	4	1 $\frac{5}{8}$ inch.	—	—
November,	60°	40°	40°	20°	50°	29°	—	—	—	—
December,	51°	27°	23°	10°	39°	21°	—	—	2	Very little.
1874.										
January,	41°	22°	18°	3°	33°	13°	—	—	1	A little.
February,	52°	27°	36°	11°	44°	19°	—	—	—	—
March,	71°	45°	44°	22°	53°	28°	—	—	—	—

REMARKS.—The three days on which the merest particle of snow fell, were December 19th and 29th and January 23rd. Windy weather prevailed on the 22nd, 23rd and 24th of February; on the last mentioned day, it threatened to snow. The last fall of rain occurred on the 26th, 27th and 28th of October, amounting only in all to $\frac{5}{8}$ in., and, excepting a very slight fall on the morning of the 21st April, the second day of the Peking races, and the 1st of May, both inappreciable, it did not rain till the 9th of May, a period of nearly seven months. The coldest days were the 1st and 3rd of January, both equal, 18° F. The coldest nights were the 3rd and 5th of January, both equal, 3° F. During the first eight days of January the thermometer was each night below 10°, the average for the same time being 6° F.

*E.—Dr. J. FRAZER'S Report on the Health of Tientsin for the half year ended
30th September, 1874.*

DURING the six months the health of the foreign community was very good notwithstanding the swampy and generally unhealthy state of the surrounding country. No deaths took place among the residents on shore or on board the merchant ships in harbour.

LIST OF CASES TREATED DURING THE SIX MONTHS.

<p>I. Diseases of Digestive Organs:—</p> <p>Dyspepsia, 6 cases.</p> <p>Diarrhoea, 15 „</p> <p>Colic, 5 „</p> <p>Tape Worm, 4 „</p> <p>II. Diseases of Generative Organs:—</p> <p>Gonorrhoea, 10 „</p> <p>Syphilis, Primary, 15 „</p> <p>„ Secondary, 12 „</p> <p>III. Diathetic Diseases:—</p> <p>Rheumatism, 13 „</p> <p>Neuralgia, 6 „</p>	<p>IV. Miasmatic Diseases:—</p> <p>Intermittent Fever, 35 cases.</p> <p>Remittent Fever, 10 „</p> <p>V. Skin Diseases:—</p> <p>Psoriasis, 2 „</p> <p>Scabies, 4 „</p> <p>VI. Eye Diseases:—</p> <p>Ophthalmia, 7 „</p> <p>VII. Accidents, &c.:—</p> <p>Wounds, 6 „</p> <p>Opium Poisoning, 2 „</p>
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The only cases of any interest in the above list were two of opium poisoning, in each of which after the usual remedies, including the subcutaneous injection of atropine, failed, the injection of iced water into the stomach by the stomach pump succeeded in saving the patients although both were pulseless, and respiration had almost ceased. In both instances the iced water caused immediate contraction of the stomach; it also appeared to have a general tonic effect on the whole system. I am not aware that the above treatment has been employed before, and I think it is worth trying as a last resource.

Intermittent fever of the quotidian type was very prevalent, but with the exception of a few cases was very amenable to treatment.

TABLE of extreme temperatures and prevailing winds from 1st April to 30th September 1874.

MONTHS.	MAX.	MIN.	PREVAILING WINDS.
April,	74°	52°	S.E.
May,	82°	50°	N.E., S.W.
June,	88°	65°	S.W.
July,	98°	76°	S.E.
August,	95°	74°	N.E., S.E.
September,	90°	54°	N.W.

F.—Dr. A. G. REID'S Report on the Health of Hankow for the half year
ended 30th September, 1874.

LIST OF CASES treated at the London Mission Dispensary, or in the Hospital connected with it,
from January 1873 to September 1874.

<i>General Diseases:—</i>			Emphysema, &c.,	75	Stricture,	3	
Ague,	130	Pneumonia,	6	Urinary Fistula,	2		
Fever,	78	Pleurisy,	5	Gonorrhœa,	22		
Whooping Cough,	2	Hydrothorax,	4	Gleet,	18		
Mumps,	2	<i>Diseases of the Digestive System:—</i>				Ophthalmia,	5
Erysipelas,	3	Hardlip,	10	Phimosis,	14		
Rheumatism,	247	Thrush,	5	Paraphimosis,	5		
Lambago,	73	Ulcers of Mouth,	13	Varicocele,	2		
Chancre or Syphilis,	150	Teething,	4	Hydrocele,	6		
Cancer,	9	Ranula,	2	Hernia Testis,	1		
Tumour,	15	Caries of Teeth,	38	Spermatorrhœa,	5		
Keloid,	2	Tonsillitis and non-speci- } 22		Impotence,	3		
Lupus,	5	fic Ulcers, }		Ovarian Dropsy,	1		
Elephantiasis Græcorum,	94	Dysphagia,	5	Leucorrhœa,	25		
Scrofula,	68	Stricture of Œsophagus,	2	Amenorrhœa,	4		
Phthisis Pulmonalis,	148	Dyspepsia,	303	Menorrhagia,	4		
Rickets,	2	Ulcer of Stomach,	4	Abscess of Breast,	2		
Anæmia,	42	Dysentery,	94	Sinus of Breast,	4		
General Dropsy,	18	Inguinal Hernia,	11	<i>Diseases of Circulatory System:—</i>			
<i>Diseases of the Nervous System:—</i>			Femoral Hernia,	2	Pericarditis,	4	
Acute Hydrocephalus,	3	Diarrhœa,	130	Valvular Affections,	33		
Embolism,	5	Constipation,	21	Carotid Aneurism,	1		
Hemiplegia,	19	Colic,	13	Aneurism by Anastomosis,	2		
Convulsions,	8	Fistula in Ano,	14	Varicose Veins,	25		
Locomotor Ataxy,	3	Hæmorrhoids,	16	Goitre,	2		
Paraplegia,	4	Abscess of Anus,	5	<i>Diseases of the Eye:—</i>			
Infantile Paralysis,	4	Fissure of Anus,	8	Conjunctivitis Acute and } 173			
Epilepsy,	23	Ulcer of Anus,	4	Chronic, }			
Shaking Palsy,	1	Prolapsus of Anus,	5	Granular Lids, &c.,	90		
Facial Paralysis,	7	Abscess of Liver,	1	Purulent Ophthalmia,	10		
Neuroma,	2	Enlargement of Liver,	18	Pterygium,	45		
Neuralgia,	21	Cirrhosis of Liver,	6	Onyx,	5		
Sciatica,	11	Jaundice,	14	Ulcer of Cornea,	38		
Hemicrania,	5	Hypertrophy of Spleen,	38	Interstitial Keratitis,	8		
<i>Diseases of the Respiratory System:—</i>			Ascites,	15	Leucœma and Nebula,	54	
Coryza,	30	<i>Diseases of the Gen.-Urin. System:—</i>				Staphyloma,	18
Laryngeal Affections (non- } 12		Bright's Disease,	13	Iritis,	12		
specific), }		Hæmaturia,	2	Weakness of Sight,	4		
Bronchitis,	231	Cystitis,	8	Glaucoma,	6		
Asthma,	50	Enlargement of Prostate,	2	Cataract,	10		

Amaurosis,	9	Erythema Marginatum,	34	Caries,	11
Muscae Volitantes,	12	Scabies,	302	Necrosis,	10
Lachrymal Abscess,	4	Prurigo,	45	Exostosis,	2
Entropium,	13	Lichen,	20	Synovitis,	9
Ectropium,	8	Urticaria,	3	Ulceration of Cartilages,	5
Trichiasis,	40	Pityriasis,	10	Anchylosis,	3
Hordeolum,	8	Psoriasis,	2	Psoas Abscess,	5
Cysts of Lids,	2	Herpes,	5	Curvature of Spine,	12
Hypertrophy of Lids,	2	Impetigo,	19	Club Foot,	1
Tarsal Ophthalmia,	26	Rupia,	8	Bursitis,	8
<i>Diseases of the Ear:—</i>		Ecthyma,	17	Bunion,	6
Inflammation of Meatus,	10	Acne,	8	Ganglion,	8
Polypus,	2	Carbuncle,	5	Contraction of Tendons,	2
Accumulation of Wax,	6	Boils,	17	" of Palmar Fascia,	1
Destruction of Membrana }	14	Ulcer,	156	Abscess of Cellular Tissue,	61
Tympani,		Elephantiasis Arabum,	5	<i>Injuries:—</i>	
Deafness,	6	Leucoderma,	2	Contusion,	23
Deaf Dumbness,	1	Onychia,	5	Wound,	10
Disease of Mastoid,	2	Whitlow,	15	Fracture,	7
<i>Diseases of the Nose:—</i>		Ingrown Nail,	7	Dislocation,	5
Ozæna,	7	Gangrene,	2	Burns and Scalds,	8
Epistaxis,	5	Tinea Favosa,	6	Sprain,	14
Polypus,	5	Tinea Tonsurans,	13	Bite by Man,	3
Ulceration of Membrane,	4	<i>Diseases of Organs of Locomotion:—</i>		" Dog,	4
<i>Diseases of the Cutaneous System:—</i>		Periostitis,	9	Opium Smoking,	99
Eczema,	98	Nodes,	15	" Poisoning,	1

During the past year, three deaths occurred among the foreign residents. The first, an infant, after apparently convalescing from acute enteritis, was attacked with purpura, and rapidly sank. Death occurred on the day after the appearance of the patches of ecchymosis, which first broke out on the chest, and were supposed to be accidental bruises. The condition of the capillaries which led to the extravasations may have been due to the enteritis, or to residence in an aguish neighbourhood. The infant had not been weaned, and seemed well nourished previous to the inflammatory attack. In the second fatal case, the patient had suffered for about a month from chronic laryngitis, when he left for a six weeks' holiday. The weather was very unfavourable, and he caught a severe cold. When he returned there was extensive consolidation of the upper lobe of the right lung and of the left apex, likewise pretty frequent diarrhoea. Under treatment the laryngeal and intestinal symptoms improved, but the patient had become very feeble, and it was evident that the pulmonary mischief had a tubercular basis. In the hope that benefit might be derived from a sea voyage and the prospect of rejoining his family, the patient was ordered home. At first the change seemed to have done good, but the improvement was only temporary, and death took place a few days before the end of the voyage. In the third case, there had been cardiac symptoms for more than a year, and the chest had been frequently examined, but it was difficult to form a satisfactory diagnosis. Attacks of intense dyspnoea and palpitation occurred every two or three months and continued for several days. During these attacks there was a powerful heaving motion over the cardiac region, external to line of left nipple and upwards to third rib. There was also very distinctly visible pulsation in second right intercostal space up to an inch from the sternum, and in supra-sternal notch where it was more distinctly felt towards the right. A murmur accompanied the first sound at the base, and increased in intensity along the left border of manubrium and towards the middle of the clavicle. The cardiac dulness was increased, and the apex half an inch external to line of nipple under the sixth rib. The circulation in the carotid and radial

arteries was different, that of the right side of the body preponderating. This difference went on increasing, and I had taken numerous tracings of the pulses during the progress of the disease, but they were not carefully preserved. There was numbness of the left fingers. No difficulty in deglutition, no contraction of pupil or laryngeal symptom, neither could dulness be detected in left infra-clavicular region. The medical history afforded ample reason for suspecting arterial disease. There had been repeated attacks of gout, and one also of another disease which has been shown to be a fertile cause of arterial degeneration, namely syphilis. Death occurred suddenly in the night, the patient having been to his office as usual on the day previous to the fatal termination. A post-mortem examination revealed intense pulmonary and venous congestion, cardiac enlargement, the heart weighing $13\frac{1}{2}$ ounces, and aortic incompetency from a rupture a little below the free border of one of the valves. Abundant atheromatous patches in transverse portion of aorta, especially near the roots of subclavian and carotid arteries and extending into these vessels, considerably diminished their channels. The internal coat of the transverse portion of the arch after it had been kept a short time in spirits presented exactly the appearance of being studded over with numerous shallow small-pox depressions. The case is of interest as an example of very marked interruption of the circulation of one side of the body by endoarteritis occurring in a comparatively young man, aged 32 years. I had thought that the obstruction to the flow into subclavian and carotid was produced by a small dilatation of the arch between the roots of the vessels, altering their openings into the aorta and compressing them; instead of this, it was discovered to have arisen from stenosis of the main trunks. It adds another instance to the prevalence of arterial degeneration among foreign residents in China.

During summer, cases of fever, ague and dysentery were met with among foreigners, but there was nothing either in their nature or treatment calling for remark. Numerous sufferers from these disorders also applied at the dispensary, and fifteen cases of fever were admitted for observation and treatment. Four of them were severe and lasted over a week, with an evening temperature of 104° to 105° , and morning temperature of 100° to 102° . The others recovered in three or four days under the use of half drachm doses of quinine, and salines. Convalescence was interrupted in two cases by repeated attacks of epistaxis, and in three others there were dysenteric symptoms for some time. Fever and dysentery combined were frequently seen among the dispensary patients, the multiplication of the germs of the one apparently rendering the system a suitable nidus for the other. The fever proved fatal in two instances among the natives under my care. In one seen in private practice, death occurred from pneumonia in the fourth week of fever; in the other, there was no complication discovered to counteract the usually good effects of quinine. Its benefits however were only temporary, and death took place from pure exhaustion, the patient gradually becoming emaciated to the last degree. The latter case was treated in hospital and was admitted in the second week of the attack. When first noted the temperature on 13th July was 105° at 11 A.M. and 104.1° in the afternoon. A full dose of quinine was administered, and repeated next day. On the 15th the temperature was about 100° in the afternoon, but during the following six days it stood at or about 101° in the forenoon and 103.2° in the afternoon. Half a drachm of quinine was administered on the 21st and repeated on the 22nd and 23rd. The temperature fell to 99° in the forenoon of the 22nd but again rose in spite of the quinine, and continued at its former range till the 26th, when it fell to 98.4° in the forenoon and 100° in the afternoon. After this it ascended as before, and death occurred on the 31st. If a similar case had been met with in foreign practice, great benefit might have been derived from prolonged cold baths, as is seen in typhoid fever patients; but the strong prejudices of the natives render this difficult to carry out. Here they might have been especially useful, as the patient was covered with iohthyosis.

A classification is given on pp. 41-42 of the diseases treated at the London Mission Dispensary since January 1873. They were chiefly of a chronic nature, the majority consisting of old cases of rheumatism, dyspepsia, malaroid disorders, bronchitis, phthisis, conjunctivitis, ulcers, dysentery and scabies. There is little to be said about these maladies beyond what has been repeatedly written before, but it may be of some interest to give a few statistics which were kept of those who sought relief. In the case of children the

trade, &c., of the father is given, and that of the husband for the wives. Of 4,000 people, the occupations were as follows:—

Shopkeepers, 785; farmers or field labourers, 751; coolies, 575; tradesmen, 508; attached to *yamêns*, or servants, 405; boatman, 294; teachers or scholars, 242; pedlars or keepers of street stalls, 215; soldiers, 130; various occupations, 95. The variety of occupations shows how extensively the influence of foreign dispensaries may be developed among certain classes, and the assistance they may afford towards conciliating the population in their neighbourhood, and disabusing the minds of the common people of some of their erroneous conceptions of the foreigner. The ages of the applicants were as follows:— Under 10, 282; 10 to 20, 458; 20 to 30, 993; 30 to 40, 934; 40 to 50, 643; 50 to 60, 472; 60 to 70, 180; 70 to 80, 35; 80 to 90, 3. Out of a thousand male adults 531 were married, 107 were widowers and 362 were bachelors. It is much to be regretted that, for the greater part of the time, no account was kept of the relationship of mortality among the married women to their periods of confinement, because it is impossible to arrive at the death-rate in childbed from conflicting native statements, or even to form a fair guess; but from the facts so far as they have yet been noted, the death-rate given by Dr. M. DUNCAN is decidedly excessive. This department of practice, for rich and poor alike, is entirely in the hands of poor ignorant old women. Some of their customs may be learnt from a few of the instances which have come under my own observation. In one patient I found that the hand and greater part of the arm had been extruded for some time, and two old dames were busily engaged in pinching and applying salt, so as to compel the fœtus to withdraw the limb. On their threatening to lacerate it with a knife, the father came to me seeking assistance. In another instance, labour had been going on during the greater part of two days, and before examining the patient, I waited to see the practice of her attendants. At the approach of each pain they assisted her out of bed, and placed her in a sitting attitude over a bucket-shaped utensil generally used by females as a commode. One standing on either side, supported her from behind, while with the other hand, they compressed the abdomen laterally and tried to force the child downwards. When the pain had ceased, the woman returned to bed to rest until another pain recurred. It was found to be a shoulder presentation, and had to be treated as in the previous case—by turning, under deep chloroform narcosis. In a third patient, labour had been going on four days and the head was extruded for nearly three days, so far as could be ascertained. The body however had not been extracted, although in succession eight so-called midwives had used their most violent efforts to terminate the confinement. Through the frequent and strong grasps applied to the head, both it and the face had been completely smashed up, and felt like a bladder half filled with water and loose pieces of bone. The cranium only adhered to the trunk by the skin of the neck. The unfortunate woman was evidently fast sinking, but to satisfy her friends, I delivered the body of the fœtus which was of an enormous size. The great prostration, delirium and abdominal tension showed that death would soon follow, and it took place in a few hours. In another protracted labour, the child was born before I arrived. The midwife had tied and cut the cord, but was holding on firmly to the maternal end, lest as she informed me, it might slip back into the abdomen and be lost. This custom is no doubt useful, as the traction hastens the expulsion of the placenta and thus diminishes the risks of post partum hæmorrhage. When the confinement is over, the mother is replaced in bed, supported in a semi-erect position, in order, as they suppose, to secure a free flow to the discharge. Bags filled with the fine dust from the kitchen fire are placed under her, and changed as required. She is not permitted to sleep for 48 hours, lest the blood should coagulate in the vacant abdomen. These few examples are sufficient to show the boon that awaits the mothers of China, when their attendants shall have the power and opportunity of learning something of the principles of obstetrics. They also, of course, indicate a high mortality from childbirth, and one which may be even greater than in uncivilized countries, from the close confinement in which the women are brought up and kept, and from the probably greater size of the foetal head among the offspring of an educated race.

Among the 1,000 adults there were 607 residing in cities, and 393 in country hamlets or villages. They had produced 2,038 children, of whom 892 had died and 1,146 were living. The comparative mortality

of town and country was 755 alive and 305 dead in cities, against 809 living and 511 dead from country districts. This death-rate for early life is enormous. Out of the 1,000 there were 101 habitual opium smokers, and of these 75 were married and had begotten 205 children, with a mortality of 93. Among the opium smokers, there were 12 over 30 years of age married for over three years and non-fertile, against 31 unfruitful marriages in the non-smokers. Various opinions have been expressed by different observers concerning the effects of opium smoking on the welfare of the Chinese, and this may partially arise from their opportunities of seeing its influence among the wealthier or the poorer classes, and also from the number of instances they may have met with. My own opportunities have amounted to over 500 cases, and the condition of the smokers may be learnt from the occupations of 100 seen during last year. They were divided as follows:—Shopkeepers, 40; yamên attendants, 18; coolies, 12; street stall keepers or pedlars, 9; farmers, 6; soldiers, 5; teachers, 3; tradesmen, 2. In every instance the applicants came to me because they had lost their means of subsistence through the use of the drug, but nine tenths of them had no idea of finally relinquishing the pipe. Their object in coming was merely to obtain a remedy to appease their present craving, and restore their strength, so as to enable them to resume their duties and earn wages to be again expended in opium. It will be seen that among the dispensary patients, the chief patrons of the drug are found among the half idle shopkeepers and yamên attendants. Those who have to earn their bread by the sweat of their brow have generally a wholesome dread of the habit. They are aware of the debilitating effects and of the certain ruin that will ensue on indulgence in opium. None of the hard worked coolies can take it with impunity, in what would be considered moderate doses by a regular smoker, namely one to two t'sien (55 to 110 grains) daily. Anæmia, emaciation, loss of appetite for good nourishment are sure to follow, and the accompanying loss of physical strength soon entails beggary for the labourer and his family. Even while work can be carried on, the expense of the indulgence is ruinous, as a certain sum must be daily devoted to the stimulant. Now, while a powerful coolie can earn 200 *cash* daily, it requires nearly 80 to buy his food, and a like sum for his wife's support, if he is married. There would thus be only 40 *cash* a day left to provide opium, clothes, food for the children, &c. The cost of opium in the divans varies from 50 to 60 *cash* per t'sien, and half a t'sien morning and evening is moderate smoking, so that the practice can only be indulged in by the labourer if he utilises in this way the money that ought to be expended in food for himself and his family. Opium differs from alcoholic indulgence by the absolute necessity of having a daily quantity. A drunkard may abstain until means accruculate to enable him to purchase liquor, and may do his work efficiently in the intervals, but the opium smoker must have his daily stimulant, or he breaks down. To obtain it, there is no sacrifice he will not stoop to, even his wife is readily lent out for prostitution to provide means to buy the drug. Respecting the effects of indulgence in opium by the rich, I know little. Among them, the supply is not limited by want of money, and hence they often smoke large quantities; some I have known to take an ounce daily, and I have heard reports of double this amount being consumed. It may be of interest to allude to the mode in which opium is prepared for smoking, and its cost. The imported drug is bought by the shops at about Tls. 450 per pecul, which is equal to 1,600 liang. At the shops it is generally mixed with other extracts, and then sold to the divans or public at 540 *cash* a liang. Entirely apart from the adulteration, the profit on each liang (about 9½ drachms) would thus be 90 *cash*, counting each tael equal to 1,600 *cash*. It is now broken up in water, about 14 ounces of fluid to one liang of opium, and boiled with gentle stirring over a quick fire until the bubbles rise freely. After this, the liquid is filtered through a double fold of rough paper, and then evaporated to the consistence of a soft extract. By this process, 1 liang (10 t'sien) of the opium of the shops yields 7 t'sien of extract. But in preparing it in the divans, there is invariably added an equal quantity of the dust from the opium pipes, so that they obtain 14 chen by this means. Further adulterations are added in the divans, but they keep the names of the substances a secret; one largely used is said to be an extract from sesamum seeds. The divan keeper retails his preparation at 80 *cash* a t'sien to customers who consume it at home, but only charges 60 *cash* to those who smoke it on the premises, as he thereby obtains the residue in the pipe. His profits are enormous, but he rarely becomes rich, as he is

invariably an opium consumer himself, and gets cheated by his customers. Here the foreign opium is mixed, both in the shops and divans, with the cheaper native products from Yunnan and Szechuen. These are considered of inferior quality, being respectively sold at 340 and 300 cash per liang. They are made up in masses like Malwa opium, and consist of a dark, sticky uniform mass which cannot be broken, like the imported drug. The Yunnan has the lighter colour of the two. In the divans they invariably state that the

METEOROLOGICAL

DATE.	BAROMETER.		THERMOMETER.								No. of days of Sunbime in each Month.	Solar Radiation in Vacuo.		Thermometer sunk 3 feet under the soil.	
			DRY BULB.				WET BULB.								
	Maximum.		Minimum.		Maximum.		Minimum.		12 M.	4 P.M.		8.30 A.M.	4 P.M.		
	8.30 A.M.	4 P.M.	8.30 A.M.	4 P.M.	8.30 A.M.	4 P.M.	8.30 A.M.	4 P.M.							
1873.															
April,.....	29.84	29.80	68.46	73.16	59.60	63.30	54.46	65.35	—	—	18	129.10	132.40	—	—
May,	29.71	29.66	77.29	81.50	68.87	75.40	70.91	72.41	—	—	29	155.30	154.70	70.22	70.39
June,	29.63	29.60	80.30	82.26	71.36	77.53	73.02	75.02	—	—	25	141.62	141.62	71.34	71.09
July,	29.42	29.51	85.45	91.71	80.45	84.40	79.08	82.16	—	—	—	162.20	151.40	76.53	76.60
August,	29.64	29.58	80.05	89.90	79.18	79.80	76.00	80.66	—	—	—	150.60	145.00	80.00	80.00
September, ..	29.90	29.85	73.30	85.60	70.86	71.43	69.84	73.63	—	—	29	145.60	144.50	—	—
October, ...	30.03	29.96	62.62	68.79	58.27	60.10	59.00	65.35	—	—	25	135.00	127.90	68.12	68.12
November,...	30.15	30.17	57.36	61.83	57.30	52.30	—	—	—	—	29	126.10	118.20	61.03	61.03
December,...	30.48	30.08	47.50	54.00	41.61	43.06	—	—	—	—	27	113.10	107.50	54.69	54.69
1874.															
January, ...	30.26	30.23	33.93	39.10	29.40	30.64	38.50	40.30	33.95	34.80	23	97.73	101.30	41.93	41.93
February, ...	30.17	30.16	42.14	46.16	35.89	38.57	40.75	43.32	36.67	37.32	22	104.80	102.10	45.67	45.67
March,	30.08	30.02	45.12	48.16	40.71	41.58	44.50	46.00	40.48	40.96	15	114.28	111.20	45.90	45.90
April,.....	29.90	29.83	64.23	72.30	58.30	60.40	62.50	66.73	57.33	58.73	28	132.30	131.50	58.76	58.76
May,	29.70	29.65	73.36	77.96	67.70	70.33	72.16	73.30	65.86	68.00	29	135.00	132.40	69.50	69.60
June,	29.62	29.60	81.18	86.93	75.86	78.56	77.40	78.20	73.23	74.60	28	146.50	149.50	77.26	77.31
July,	29.48	29.33	84.59	89.30	79.38	82.55	81.00	84.25	78.35	78.22	—	147.09	146.23	81.40	81.53
August,	29.62	29.59	86.58	91.77	80.83	83.28	81.83	83.87	77.45	78.58	—	156.70	157.30	83.23	83.23
September,...	29.80	29.80	75.71	79.86	71.63	73.76	73.60	73.66	69.20	70.03	25	133.32	133.18	79.50	79.48

For the last five columns I am indebted to the register kept at the

The meteorological instruments were set at 9 a.m. and at 9 p.m., and in writing down the readings of the dry and wet bulbs no corrections were made. Neither have the factors given in GLAISHER'S tables been employed in calculating the mean of each month. The record will enable one to compare the meteorological

foreign drug is used, but it is difficult to believe this, as so much adulteration goes on in preparing the extract. In many country districts the native opium is altogether used, and may be a less injurious article than the other. In alluding to the effects of opium smoking, I do not wish it to be inferred that any injury might arise from its very moderate consumption, that is, in quantities of a quarter to half a t'sien daily, as those who came for treatment had invariably exceeded that amount.

OBSERVATIONS.

Minimum on Grass.		Ozone.	Rain and Snow.	Temperature of River.		Dried mud in 4 galls. of Water from River.	Rise of River.	Fall of River.	No. of days when the breeze was light or moderate by scale. Wind 2 or under.	Prevalent Winds.	No. of Wet Days.	DATE.
8.30 A.M.	4 P.M.			Inches.	9 A.M.							
—	—	—	5.27	67.70	68.80	—	114	95	28	—	8	1873. April.
—	—	187	5.40	77.71	78.60	2006	64	29	29	—	5	May.
—	—	163	11.16	78.53	79.00	3052	173	4	30	—	11	June.
—	—	163	0.83	80.80	80.96	5411	118	2	27	—	5	July.
—	—	152	6.45	84.25	84.12	2750	1.5	38.5	27	—	9	August.
—	—	—	1.15	75.93	76.60	4258	15	28	26	—	6	September.
—	—	111	3.26	65.00	68.07	2582	0	69	16	E. & N.N.E.	10	October.
—	—	75	0.58	58.60	59.80	1836	0	128.5	28	N.N.E. & E.S.E.	3	November.
—	—	59	0.32	49.29	49.19	3019	0	120	28	N.E. & N.N.E.	5	December.
1874.												
25.54	41.66	85	S 5 in. 1.27	38.48	39.48	1676	51	54.5	30	N.E. & N.N.E.	7	January.
33.09	49.02	73	S 1 1/2 in. 1.74	—	—	1808	174	8	27	N.N.E. & N.N.W.	8	February.
35.77	48.43	119	S 5 1/4 in. 5.16	47.50	48.30	2071	51	50	18	Variable	18	March.
49.86	74.80	98	2.37	64.60	64.40	1969	48	52	25	E. & S.S.E.	7	April.
59.03	80.73	122	6.59	73.83	74.50	1910	86	48	16	E.N.E. & E.S.E.	13	May.
75.30	93.13	80	3.68	82.10	82.20	3973	82	81	17	S.E. & S.W.	7	June.
77.30	96.60	64	3.87	83.68	84.19	5167	132	15	28	S.S.E. & S.S.W.	11	July.
78.29	98.30	71	1.24	88.60	88.90	3909	12	74	22	Variable	5	August.
67.70	82.00	87	5.77	78.13	78.53	4183	52	14	27	N.E. & N.N.E.	12	September.

Customs by Mr. MAY and kindly lent me by Mr. MACREY.

conditions during the two past summers, and to form some idea of the climate of the interior of China. During each year the dry and wet bulb thermometers and ozone cage were suspended in an upper verandah which looked E.S.E.; but in 1873, up to October, the observations were made in a house situated

close to the river, while after that date they were taken in a house on the middle road of the British Concession, and bordering on the native city. This difference of locality may to a great extent account for the striking excess of ozone noted in one year compared with the other, for during 1873 the ozone paper which had been suspended in the old hospital in the native city gave little or no reaction. It might also account for the higher range of the buried thermometer during 1874, as the soil of one compound was more wet and not so high as the other. In comparing the heat registered during the last two summers it will be seen that it varies considerably in the same months in different years. The mean heat, for instance, of the past May, was three and a half degrees under that of the previous year, and while the temperature never exceeded 88° in the former, it rose to 94° in the latter, and on several occasions to 91°. In June again the reverse of this occurred, the mean heat of the present being 4° over that of 1873, and the thermometer rising five times to 94°, while during the latter it never exceeded 91°. July was comparatively cool as regards mean temperature, and the thermometer was only five times up to 94°, against seventeen days in the previous year. In August again, the difference of the means was in favour of 1873, because during that year the weather was more variable; but the thermometer rose to 94° much more frequently than during the present year. The hot weather sometimes continues up to the end of the first week of September, as in 1873, when the hottest days of the year were the 7th to the 10th, the temperature rising at that time to 100°, but it fell on the 11th to 66°, and the severity of the summer ceased. This September has been of a more even temperature, and the thermometer only once rose to 91°. The frequent variations of the temperature of the air form a marked contrast with the steady rise and fall of the thermometer sunk three feet under the soil. At that depth it reached the lowest point in January, when it had fallen to 40°. After the middle of the month there was an upward progress of a degree every three or four days, bringing it to 46° on the 1st February. During this and the following month it advanced five degrees, occasionally sinking a degree for a few successive days. Hence it rose rapidly during April and May, more slowly in June and July, till it reached the maximum, 85°, on the 31st July, and fluctuated within 3° of the highest point up to the 16th September, when it began to decline. Throughout the year, up to the 16th September, it is extremely rare to find more than a difference of one degree between any two successive days, but thence to the 19th there was a fall of seven degrees, after which the decline went on as the rise had occurred, by single degrees. It may be of interest to contrast the range of the earth thermometer with that of the maximum and minimum in different months.

—	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.
Earth,	6°	3°	2°	14°	7°	5°	6°	2°	9°
Maximum and Minimum Difference, }	42°	25°	35°	47°	25°	24°	23°	20°	26°

The highest readings of the vacuum solar black bulb were noted in July 1873, when on three occasions it reached 175°. During the past summer it never exceeded 169°, but rose several times close to that during August.

In estimating the quantity of ozone, the coloured scale and prepared papers from NEGRETTI and ZAMBRA were employed. The reaction was compared with the scale daily at 9 a.m. and noted, and the total of the numbers are given for each month. During the past summer the variations were from 0 to 4, and in the winter from 0 to 7 on different days. In the previous year they ranged from 0 to 9 in summer, and 0 to 7 in winter. The anemometer at the Customs is placed at a height of 40 feet. During the days in each month, over and above the number mentioned in the column, the scale marked 3 to 4, and indicated a strong or fresh breeze. In summer these strong winds are usually from the south and therefore hot and scorching. Although the scale indicates a certain amount of breeze for day and night, the most vexatious condition is

the frequently complete cessation of all wind during the early hours of the night, which renders sleep an impossibility to most people, without the aid of a bed punkah.

The deposit from the river was estimated from water either taken from the Wuchang side or from Hanyang, so as to avoid the admixture of the clear water of the Han river. Four gallons of water were drawn daily, and six grains of alum were added. Next morning the clear water was drawn off with a syphon, and the remainder poured into a long glass in which it shortly re-deposited, and was then thoroughly dried in a crucible and weighed. In order to form an idea of the enormous quantity of matter that must be carried annually past here, it must be remembered that the Yangtze opposite Hankow is three quarters of a mile broad in winter, with a depth of 18 to 20 feet, and in summer it is nearly a mile across, with more than twice the winter depth.

G.—Drs. CARMICHAEL and MYERS's Report on the Health of Chefoo for the half year ended 30th September 1874.

MEAN METEOROLOGICAL OBSERVATIONS.

MONTHS.	THERMOMETER.		BAROMETER.	REMARKS.
	MAX.	MIN.	INCHES.	
April,	65°	46°	30.02	The readings from these instruments were taken morning, noon and evening. The mean result for Thermometer and Barometer is here recorded.
May,	70°	55°	29.83	
June,	77°	62°	29.77	
July,	80°	66°	29.81	
August,	80°	72°	29.82	
September,	76°	66°	31.10	

We are indebted to Mr. BRENNAN, Harbour Master, for the above table.

A mild type of intermittent fever prevailed among the residents during the month of June, and chiefly affected children. It occurred during the period of dentition and was accompanied in many cases by diarrhoea. This little malarial outbreak took place at the commencement of the rainy season and was unusual. As a fact to be remembered by our foreign community, it may be mentioned that this fever was only found amongst families living in cottages with no system of ventilation beneath the flooring, and in badly constructed dwellings, where all the sanitary surroundings were notoriously injurious. On several occasions we have had to call the attention of householders to the unhealthy condition of their premises, but we regret to say our suggestions have not always been met with that response we could have desired. It is remarkable that people who will often inconvenience themselves to a great extent in carrying out prescriptions, should yet resist advice in a matter which in importance is second to no other for the prevention of disease. We do not mean to say that our community is less advanced in sanitary practice than other communities in China, but we have often been painfully impressed by the utter indifference and want of interest displayed by certain foreign residents in matters of hygiene. They appear to rest content with things as they are, however insanitary they may be, simply because they have had no personal or recent experience of the dangers of a polluted neighbourhood and of defectively built houses. The natural result of an increase of the rain-fall, together with a higher temperature than is usual at the season, is frequently the only proof which can be forcibly brought home to them of the fatal imprudence of neglect.

During the early part of the summer there was a large influx of visitors from the south affected with malarious remittent fever and intestinal catarrh. The former speedily yielded to change of climate, but the latter was not so easily controlled, frequently requiring a protracted residence and great care before improvement was observed. We have to note the rapid convalescence from fevers, and intestinal and hepatic affections, among patients who come to Chefoo early in the season. Later on, in consequence of the frequent rains, the change is not found to be so great or so beneficial. Protracted convalescence during the middle and latter end of summer may of course occasionally be attributed to the then more grave and chronic nature of maladies, but it is worthy of remark that patients apparently seriously ill who resort to this place before July make surprisingly rapid recoveries, which we refer to the direct influence of the climate. Medical men in Shanghai, whose patients form the subject of these observations, will, I believe, bear us out

in what we say. This salubrity of the first six months of the year we might expect when we remember that there is no rain-fall during the whole winter, and scarcely a shower until we are far advanced in June.

The average number of cases have been attended to among the shipping, and these were chiefly of various forms of venereal, dysentery and diarrhoea.

There were only two fatal cases during the period under review, and both of them were non-residents. The first was a seaman landed from a German barque. He was a tuberculous looking subject, and suffered from a violent form of syphilis of some months' duration. The local disease was of the sloughing variety, and when the patient was first seen it had destroyed the whole of the glans penis. The constitution was deeply infected and the left eyeball was quite disorganized. There was an eruption of rupia over the extremities. But the most serious of the syphilitic lesions under which he laboured was progressive ulceration of the larynx. There was a troublesome cough and muco-purulent expectoration. Auscultation revealed a cavity in the right apex. With these symptoms increasing in severity he lingered for some weeks and then sank from exhaustion. A post-mortem examination, which was limited to the respiratory organs, showed that the ulceration had to a considerable extent destroyed the cartilages of the larynx. The right lung was completely broken down into cavities and the left one was œdematous.

The second was a case of dysentery recently arrived from Shanghai. He was carried from the steamer in a very weak state. A letter from his professional adviser stated that "he had been suffering from dysentery of a very bad character for about a fortnight." On examination he presented the following conditions. Features sunken, surface cold, bathed in a clammy sweat, feeble pulse, abdomen tender, temperature 97°. Stools hæmorrhagic, and having a motion every half-hour with the horrible odour characteristic of gangrene. On the following day he continued much in the same state. On the third day, and as described in our notes, "observed a piece of clotted blood in the stools three inches long and shaped like the mould of the bowel. "Motions if anything more indicative of a sphacelated condition of the colon. Complains of great pain over "the bowels. Temperature 99°, pulse full and hard, surface cold and sweating profusely, face expressive of "great prostration and of gangrene." Towards evening the temperature fell to 98° and he declared himself much better, being quite free from pain. He was not apprehensive of his hopeless condition and begged that no one should be disturbed that night on his account for he was inclined to sleep. As the hours passed the fatal symptoms became more marked, the pulse and temperature rapidly decreased, dyspnoea set in and he died about midnight. Dr. JOHNSTON of Shanghai kindly assisted at the post-mortem examination.

Body emaciated. *Thorax*.—Heart flabby and pale with deposit of fat about the apex; in the right ventricle a yellow fibrinous clot was found which consisted of a body about the size of a walnut, and two long projections, one of which with the body was in the cavity of the ventricle whilst the other arm extended into the pulmonary artery, almost stopping up the vessel. Lungs both collapsed and devoid of blood, right lung was a little congested at the posterior lobe.

Abdomen. Liver.—Right lobe conspicuously "domed;" organ slightly indurated. Intestines.—Patches of congestion seen here and there throughout all the small intestines, several feet of the lower part of the ileum being very much congested, large intestine more or less gangrenous throughout whole length, particularly the transverse and descending colon, which was a sphacelated slough throughout its whole structure. In the middle of the transverse colon a large perforation was seen appearing as though a portion somewhat larger than a pea had been punched out of it; a smaller perforation a little larger than a pin's head was seen close to this, but lower down. Cæcum was dotted over its upper half with minute ulcers. The ileo-cæcal valve was ulcerated on the lower side of the flap, but the upper side was quite healthy. Rectum gangrenous.

Morbus Coxarius.—Were called to see this case on 1st June. Patient a male aged 3 years, who had just arrived from Australia via Shanghai. The mother stated that "the child had been ill for one month, "and that the first symptoms dated from a fall received on board ship while on the passage. For several

“ days subsequent to the fall he was able to walk and otherwise to conduct himself as if he had not particularly suffered from the accident, but at the lapse of three or four days he was taken with severe rigors and then violent fever which, with attendant delirium, lasted about a week; it then subsided leaving him quite prostrate. He lay on his right side with the left knee drawn up, and this was the ordinary position he lay in during the fever and afterwards. Every attempt made to turn him on the other side or to straighten the leg caused him to scream as if in great pain. There was a swelling over the hip and the thigh of the affected side. This swelling was extremely tender to the touch. The treatment on board was at first for ague, the master believing the rigor to be symptomatic of that disease, but on the discovery of the swelling various applications were used to alleviate a supposed strain which they had attributed to the fall he had received a few weeks previously. Ultimately all active treatment was abandoned until the vessel arrived at Shanghai where some one pronounced it a case of fracture.” On examination the child was found lying on his right side as had been described by his mother. He complained of pain in the knee. There was a large swelling extending from the hip joint downwards and forwards in front of the thigh. The tumefaction near the joint was hard and at places very tense, the skin presenting a glistening appearance; the subcutaneous veins were very visible. The swelling in front was situated about the middle of the thigh and also distinguished by its red and fluctuating character. On careful manipulation, which produced great pain, no fracture was detected nor did we expect to find any, having been assured that the child was able to walk after the fall and until the accession of the fever and rigors. There was great tenderness over the joint and every movement produced pain and distress. The pulse was very high and there was occasional pyrexia with sweating. We had no hesitation in pronouncing it to be a case of hip disease and abscess, and forthwith applied the aspirator at the point of fluctuation, evacuating about six ounces of pus.

June 2nd.—Has had a good night, swelling in front of the thigh much diminished. He has been much more tranquil since the aspiration.

June 3rd.—Matter evidently re-accumulating; tenderness over the hip not so acute; child seems better and more cheerful, although the pulse is still high. One drachm of cod liver oil twice daily.

June 5th.—Matter again collected to a considerable extent. Tenderness over the joint; the general appearance of the child is not however so unsatisfactory as on its arrival.

June 6th.—Abscess has been discharging by the aspiration puncture during last night; patient very much improved in appearance; swelling near the hip considerably diminished; pulse somewhat lower. Syrup of phosphate of iron was prescribed.

June 21st.—Since the last entry patient is very much better in every respect; he sleeps well and has an improved appetite; is free from sweats and pyrexia. The opening made by the aspirator is kept patent by a bit of lint.

June 28th.—Discharge from thigh almost ceased. Introduced a seton near the situation of the joint, as it is evident the aspirations are not sufficient to keep up the discharge necessary.

June 30th.—Discharge from the seton puncture very profuse while the point in front of the thigh is allowed to close up. From this date until the end of September the patient continued to improve. The case progressed in spite of occasional accumulations of pus demanding free incisions.

The long splint suggested itself as the routine treatment, but after a careful consideration of the case, and remembering that during the hot season it was necessary to avoid the use of anything which involved confinement to bed in a close room, we thought it better to leave him pretty much to himself. Accordingly he was laid on a mat spread on a couch near a window which was kept open in fine weather, and where he had the advantage of a cool situation and plenty of fresh air, requirements in our opinion more important than binding him down in splints, however desirable it might be by the latter procedure to give the joint rest. He is now (September) gaining weight and strength daily. The recovery is so rapid that we have every reason to believe in his speedy restoration to health and to the free use of the limb. Referring to the aspirator used at the outset of treatment in this case, we would remark that whilst fully cognizant of its value in cases where the use of the knife is impossible, in collections not presenting this feature, resort to it

is unadvisable as being certainly inferior in effect to the incision. This was strongly illustrated both in the case here recorded and in another of mammary abscess, where out of deference to the patient's fears the matter was on the first two or three occasions evacuated by DIEULAFOY'S instrument, with a result the unsatisfactory nature of which was made very evident after the breast had been fully laid open.

Ailanthus Glandulosa.—We have continued to observe the effect of this remedy in dysentery during the past summer, and we have administered it in what appeared to be three suitable cases. A mate from a Swedish barque had been affected with dysentery for two years which had defied all kinds of treatment; he was not so much under the influence of the disease as to be unable to attend to his duties, but he felt very much alarmed at the long continuance of the malady and was very anxious to try the effect of this "new medicine." He took it in the doses generally recommended, for some days, without apparent change in his symptoms. We then doubled the quantity, occasionally going back to the original dose, but all without producing the least influence over the number or the character of the motions. After three weeks of what we considered a fair trial of the drug, the man confessing that it had done no good, we discontinued the treatment. We ventured to give the ailanthus a trial in the case of a visitor alarmingly exhausted from an attack of chronic dysenteric catarrh when various remedies had been previously unsuccessfully used; for certain reasons we gave it in half the quantity which is generally found necessary. The first few doses produced no effect whatever, but ultimately we gave it in a much more concentrated form, when such severe pain in the epigastrium, accompanied by vomiting and purging, took place that we did not feel justified in proceeding with the preparation. The third and last case was a dysentery of a very chronic nature. The patient, a visitor, had "tried numerous remedies, resorted to distant places, and had adopted many suggestions made to him by his friends to bring about a cure" without the desired effect. He expressed himself as no great believer in drugs, and that he thought he had already suffered somewhat from over-drugging. We were called in to prescribe for an acute catarrh which had supervened on his old disease. The acute symptoms abated in due course leaving the chronic complaint as before. About this time he obtained some of the ailanthus, already prepared, from a friend, and commenced to treat himself with it. After exhausting the supply thus procured he said he felt much better and conscious that the medicine was having a benign effect on his disease. He then left the place and we have not since heard from him.

In the first case the effect of the remedy was negative; in the second there seems to be evidence that it may sometimes have a positive effect such as has been described. In the third we have great reason to believe that the change for the better was due to climatic influence, and this seems reasonable when we mention that there was a change from wet and miserable weather to a fine, dry and bracing atmosphere simultaneously with the first use of the ailanthus.

H.—Dr. J. R. SOMERVILLE's Report on the Health of Foochow (Pagoda Anchorage)
for the half year ended 30th September 1874.

I.—Notes on the Meteorology of Pagoda Anchorage for the six months.

I am indebted to the kindness of the Harbour Master, Captain BISBEE, for the following abstract of observations. They are the only full and correct ones that have ever been made at the Anchorage. The instruments used are those of the British Meteorological Society, and the records are therefore comparable with those from similar instruments in any part of the world.

Medical climatology, the branch of meteorology with which we as physicians are most immediately concerned, may be said to be a science that is still in its infancy everywhere, notwithstanding the labours of many able and painstaking observers. In China it can scarcely be said to have been entered on systematically as yet, and thus we have not the work of our predecessors to build upon. In these circumstances it is particularly desirable to wait rather than to form conclusions that may hereafter require to be modified or negatived. In the notes that follow I purpose, therefore, merely to touch upon a few broad facts in connection with the atmospheric conditions of the season under consideration, and to leave particular deductions until we have had more extended observations. It is true that we are not able as yet to show the connection between irregularly recurring waves of disease, and especially of epidemics, and the meteorological conditions in existence at the time, but it is probable that the nearer meteorology comes to be an exact science the more light will it throw on these obscure phenomena. We have moreover another vast field of enquiry opened to us lately in the same connection, mainly through the labours of Dr. Angus SMITH, in what he terms "the chemistry of climate."* Altogether the future prospects of these kindred sciences look hopeful.

Along with the abstract I will use the monthly sheets in which the daily observations are recorded; the latter have also been kindly placed at my disposal by Captain BISBEE.

Analysis of the Meteorological Table.

(a.) *Barometer.*—With regard to atmospheric pressure there is little special to note. As in the case of other places situated near the tropics the diurnal range of the barometer is very regular, the day maximum occurring at about 9.30 A.M., and the day minimum at about 3.30 P.M., the hours of observation in the above record. As at other places too in the Northern hemisphere generally, the barometer rises with northerly and easterly winds, and falls with those from the southward and westward. The former are cold and dry winds, the latter warm and moist.

The abstract shows the gradual diminution of pressure as the S.W. monsoon establishes itself. The minimum is reached in July; a slight rise is noticeable in August, and a marked one in September. At this time northerly and easterly winds usually set in before the advent of the N.E. monsoon in October. We have thus diminished pressure at the time when we are suffering most from the effects of heat and moisture.

It is probable enough that the continually altering weight of the atmosphere is an element in the production of wind, for it has been proved that currents of air tend to the regions of lessened pressure. With regard, however, to its effects on the human body, pressure *per se* within the ordinary ranges need not be taken into consideration. In these circumstances its influence has been proved by universal experience to be but very slightly if at all appreciable. A modern naturalist happily remarks "We sometimes find "when we get up in the morning, by a rise of an inch in the barometer, that nearly half a ton has been

* "Air and Rain. The beginnings of a Chemical Climatology." By Robert Angus SMITH. London, 1872.

"quietly piled upon us during the night, but we experience no inconvenience, rather a feeling of exhilaration and buoyancy, since it requires a little less exertion to move our bodies in the denser medium."* We must therefore look to other conditions of air than weight to explain the influence of the weather on our sensations, and these states will be noticed further on.

The highest reading of the barometer, 30.275, is recorded on the forenoon of the 3rd April, against which is placed in the remark column—"Fine clear weather; cirro-cumulus, detached masses; strong breeze in evening," and the lowest on the afternoon of the 31st July, 29.438, with the remark—"Dull and gloomy with light showers; middle part fine; cirro-cumulus." The range for the six months is therefore .837.

The abstract shows the monthly means. The means for the six months are—at 9.30 A.M., 29.844, and at 3.30 P.M., 29.776. The mean of the two daily readings for the six months is therefore 29.810.

(b.) *Thermometers.*—The thermometers used are dry and wet bulb, solar radiation, maximum and minimum in air. The dry bulb shows the temperature of the air at the hours of observation; the wet bulb temperature of evaporation at the same hours; the maximum thermometer the highest temperature of the day in shade, and the minimum the lowest temperature of the night. From a comparison of the dry and wet bulbs, along with a table of the tension of aqueous vapour, the dew point, elastic force of vapour, and the relative degree of humidity are calculated by Dr. APJOHN'S formula. The maximum and minimum and solar radiation thermometers are read once daily, at 9.30 A.M., and refer to the preceding 24 hours.

By comparing the maxima and minima daily means, the mean temperature of the several months is found to be as follows:—

April,.....	64.3°	July,.....	83.9°
May,.....	72.2°	August,.....	84.1°
June,.....	83.2°	September,.....	81.4°

The mean temperature for the six months is therefore 78.1°.

It is probable that there is a correction to be applied to these monthly means, though it is impossible to tell what. GLAISHER'S corrections apply only to Great Britain, and as for the formula of HERSCHEL quoted by PARKES as applicable to all parts of the world, in the numerous instances in which I have applied it the result has always been an *increase* in the mean temperature, instead of, as I presume is intended, a diminution. † I prefer therefore to let the means remain as they are for the present.

The highest temperature in the shade, 97.6°, occurred on the afternoon of the 3rd August. Remark—"Dull morning, overcast, and dense haze; noon squally to S.E.; latter part fine and clear." The lowest in the shade was on the morning of the 2nd April, 47.6°. Remark (for day before)—"A.M., fresh breeze, weather clearing; cirro-cumulus; fine pleasant evening." The range in shade for the six months is therefore 50°. The highest temperature in the sun, 166.2°, was reached on the afternoon of the 6th August. Remark—"Very hazy morning; noon clear and sultry; 3.30 P.M., heavy squall from N.E. with thunder, lightning and rain; 4.30 P.M., wind backed round to W. and S.W. and moderated." The lowest in the sun occurred on the 19th April, 67°. Remark—"Drizzling rain throughout, hazy, overcast, nimbus." The range in sun for the six months is thus 99.2°.

A comparison of the maxima and minima means will show the mean difference of the day and night temperature for the several months, and this is an observation of much importance.

April,.....	15.8°	July,.....	15.0°
May,.....	11.7°	August,.....	14.8°
June,.....	15.1°	September,.....	12.6°

Mean difference for the six months, 14.1°.

* "The Depths of the Sea." By C. Wyville THOMSON. London, 1873. pp. 32, 33.
 † $\frac{2t + t' + t''}{4}$ "PARKES'S Practical Hygiene." 4th Edition, 1873. p. 415.

I confess I am surprised at these results. They indicate a great difference between the day and night temperature, and it is probable that average seasons will not show so much as this. They agree however with experience, in judging of the heat by our sensations, for it was a subject of general remark this summer that though the day heat was often excessive, the nights were seldom oppressively hot, but usually tolerably cool and comfortable.

It will be seen from the abstract that the observation at 9.30 A.M., by the dry bulb, comes pretty close to the mean temperature of the respective months. In April and May it is nearly the same; in June and July it is greater, and in August and September rather less.

The hottest time in the 24 hours is probably between 2 P.M. and 3 P.M., and the coldest about 3 A.M. or 4 A.M.

(c) *Hygrometer*.—*Dew point, elastic force of vapour, humidity*.—From the abstract we find by calculation the mean difference between the dry and wet bulb for the several months to be as follows:—

	At 9.30 A.M.	At 3.30 P.M.	MEANS.
April,.....	9.5°	8.9°	9.2°
May,.....	4.2°	5.1°	4.6°
June,.....	6.3°	7.2°	6.7°
July,.....	6.1°	8.8°	7.4°
August,.....	4.9°	6.2°	5.5°
September,.....	3.3°	3.5°	3.4°

Mean for the six months 6.1°.

The greatest difference between the dry and wet bulbs occurred on the 10th April at the afternoon reading. Dry 90°, wet 72.7°, difference 17.3°. Remark—"Fine but very hazy; a few drops of rain at 1 P.M.; sultry; cumulus." The range for the season is therefore 17.3°. This seems a high range, but in absence of more extended observations I cannot tell whether it ought to be regarded as unusual. The greatest difference noted by DREW between the dry and wet bulbs during 7 years' observation at Southampton, England, was 16°.* The other readings on this day at the same hour are—barometer, 29.819; dew-point, 64.5°; elastic force of vapour, .606; humidity, .430; wind, S.; velocity, 4.83; force, 0.12; cloud, 3.

The difference of 12, 13, 14 and 15 degrees occurs pretty frequently during the season.

The least difference between the bulbs occurred on the afternoons of the 24th and 30th September,

24th Sept., Dry,.....	78.0°	30th Sept., Dry,.....	77.0°
Wet,	77.8°	Wet,	76.8°

the difference in each case being .2. Remark on 24th September—"Dull and overcast with drizzling rain throughout." Remark on 30th September—"Morning, wild looking weather with dense haze and drizzling rain; 9 A.M., strong gusts of wind, and overcast; noon, less wind but overcast, frequent squalls; 3 P.M., wind veered round from N.E. to E.S.E. and moderated; still evening; 7 P.M., wind backed to N.E. and blew in strong gusts with showers of rain."

The *Elastic force of vapour* attained a maximum on the 3rd August, 1.290. Remark—"Dull morning, overcast and dense haze; noon, squally to S.E.; latter part, fine and clear." The minimum occurred on

* "Practical Meteorology," 2nd Edition, p. 144.

the afternoon of 16th April, 1908. Remark—"Morning, strong breeze, dull, hazy weather; evening, moderate and fine; cirro-cumulus."

Dew point.—It is known that the dew point may be the same at extremely different degrees of air temperature, and thus this element need not concern us except as a step in obtaining what is one of the most important factors in the formation of climate, viz the *degree of humidity*.

The abstract shows the *relative* humidity, and this is a great convenience in a medical point of view, for it is certain that it is the relative dryness or moistness of the atmosphere that exerts an influence on the human subject rather than the absolute amount of watery vapour present in a given quantity of air. For example, when the dew point is high the air will hold in suspension a proportionally larger amount of vapour, and it does often happen that a much larger absolute amount is retained at a higher temperature, with a considerable difference between the dry and wet bulbs, than is present when the air is at nearly complete saturation at a lower temperature.

Complete saturation is taken as 100, and this point was never reached during the season. The nearest to it are the readings on the 24th and 30th September, 99.1, when the dry and wet bulbs differed only by .2°. The former day was "dull with drizzling rain throughout," and on the latter, (*vide* Remark *ante*) the weather showed all appearances of a typhoon somewhere in the neighbourhood. The barometer stood at 29.458, one of the lowest readings of the season.

It will be seen from the means that the humidity is very considerable, and the season will probably be found to be exceptional in this respect. So far as these observations have gone I have, however, seen no reason to coincide with Colonel SYKES in his experience in some parts of India as throwing doubts on the accuracy of the dry and wet bulb thermometers used as a hygrometer. The humidity in this case, though great, does not seem excessive by comparison. Colonel SYKES considers that he had found in India, by a comparison of the dry and wet bulbs, a much higher degree of humidity than was possible, and he says,—“I have no hesitation in expressing my belief that the results which I have obtained with the labour of some months (by reducing numerous observations with the dry and wet bulb thermometers) do not represent the real fractions of saturation of the air at the several places where the wet bulb was observed.” (Phil. Trans. part II., 1850—quoted by DREW, p. 174.)

It is sufficient answer to this that the dry and wet bulb thermometers are at this date the hygrometer recognised by meteorologists in all parts as giving the most trustworthy results.

(d) *Rain.*—Rain fell on—

10 days in April.	Amount,.....	1.881
20 " " May.	"	7.605
8 " " June.	"	3.401
7 " " July.	"	7.575
12 " " August.	"	3.655
15 " " September.	"	3.510
<hr/>		
72 days.		27.627 inches.

The highest rain-fall, 6.225, occurred in the 24 hours preceding 9.30 A.M., 9th July. Remark, 8th July—"Very gloomy and unsettled looking weather, with drizzling rain; after 3 P.M., continued heavy rain." The other afternoon readings for this day are, barometer, 29.590; dry bulb, 76.5°; wet bulb, 76.0°; dew point, 74.2°; elastic force of vapour, .846; humidity, .928; wind, S.W.; velocity, 9.83; force, 4.31; cloud, 9.

This heavy rain-fall on one day in July scores up a large amount for that month, but May is the rainy month of the season here. We have usually some rain in February, but as a rule the great rainy season may be said to commence about the end of April, to last all May, and to go into the first week of June.

This is the most unpleasant time of the whole year. Along with a considerably high temperature we have an excess of humidity, and little wind. In this way evaporation from the skin is reduced to a minimum, and one feels as if enveloped in a huge hot poultice. Sir J. Ranald MARTIN's description of the rainy season in India applies, *mutatis mutandis*, equally to Foochow at this time. "From the 15th July to 15th October, and as the rains advance, we live in an atmosphere having all the properties of a tainted vapour bath; and when the wind comes sifting through the sunderbunds at south-east, we experience many of the inconveniences ascribed by HENNEN to the sirocco of the Mediterranean, which 'without affecting the thermometer or barometer in any remarkable degree,' yet inflicts on the delicately sensitive human frame a feeling of indescribable languor and oppression, with an exhausting perspiration, much like what we suffer from in Bengal during the latter portion of the rainy season, and which a West Indian lady, speaking of the sirocco, described as giving 'the feel as if she had been bathing in a boiler of syrup.' This is the moist sirocco of Bengal. The mind, too, seems to partake in the general relaxation, being unfitted for vigorous or sustained effort; in short we here perceive the *capitlenium, languor et expletio*, remarked by PETRONIUS amongst the luxurious and dissolute Romans of his time." *

At this port we have as a rule little rain from June to September, but this season was exceptional, the rain being pretty well distributed over the six months. The rain fell mostly in the afternoon and evening, and this no doubt accounts for the remarkable difference between the day and night temperature.

(e) *Wind*.—I am indebted to the Harbour Master for the following remarks on the wind observations. "The velocity and proportionate force of the wind at this station are from readings of a ROBINSON'S anemometer, which is in perfect order and as well placed as circumstances will allow; but the velocity recorded by it and the corresponding pressure are much below the velocity and pressure corresponding to the numbers of BEAUFORT'S scale as noted by an observer at the same station who has had a long experience as officer of a ship. This is no doubt due in a great measure to the fact that in a place surrounded by hills, as the Pagoda Anchorage is, it is impossible to place an anemometer where it would be perfectly free from local influences."

The summary of direction shows the number of days in each month on which a particular wind prevailed. I can obtain no data for connecting our gales of the season with typhoons in the neighbourhood or elsewhere. This, though an interesting, is obviously a very intricate subject, involving an analysis and comparison of the logs of many vessels in different positions, and it must be let alone for the present.

I would only note the readings here on 22nd and 23rd September, the days of the terrific typhoon at Hongkong and Macao:—

22nd September, at 9.30 A.M.—Barometer, 29.796; dry bulb, 76.7°; wet bulb, 74.6°; dew point, 73.8°; elastic force of vapour .833; humidity, .907; solar radiation, 139.4°; maximum in air, 83.8°; minimum in air, 73.0°; mean in air, 78.4°; wind, N.E.; velocity, 15.61; force, 1.218; cloud, 9; rain, 0.00. At 3.30 P.M.—Barometer, 29.752; dry bulb, 76.3°; wet bulb, 76.0°; dew point 75.9°; elastic force of vapour .894; humidity, .986; wind, N.E.; velocity, 23.00; force, 2.645; cloud, 9. Remark—"Very windy; threatening appearances; heavy cumulus; middle and latter parts light showers of rain, and overcast."

23rd September, at 9.30 A.M.—Barometer, 29.991; dry bulb, 80.8°; wet bulb, 78.9°; dew point, 78.3°; elastic force of vapour, .966; humidity, .920; solar radiation, 97.9°; maximum in air, 80.3°; minimum in air, 75°; mean in air, 77.6°; wind, S.W.; velocity, 12.28; force, .754; cloud, 10; rain, .220. At 3.30 P.M.—Barometer, 29.853; dry bulb, 87.5°; wet bulb 83.8°; dew point 82.7°; elastic force of vapour, 1.117; humidity, .857; wind, N.E.; velocity, 8.00; force, .320. Remarks—"Moderating, very hazy; middle part sultry and overcast; pleasant evening and clear."

I shall be able to give the ozone observations in next Report.

In concluding these remarks I would mention the pleasure I derived lately from a visit to the observatory connected with the Institution of the Jesuit Fathers at Sikawei, near Shanghai. This observatory,

* "The Influence of Tropical Climates on European Constitutions," p. 43.

I was informed, had been in operation for about 5 months, and the records had already been sent to Rome for publication. The pressure, temperature, rain-fall, and wind are here recorded by self-registering automatic instruments, and the institution is well stocked with other meteorological apparatus. I noticed that the standard barometer used is one of ANIE's. The automatic pluviometer, which is somewhat on the principle of LESLIE's, has not been found to give accurate results, and the rain-fall is taken from one of the ordinary gauges in the grounds.

Nothing can exceed the courtesy of the Reverend Father in charge, and I would recommend my brother practitioners at the out-ports, who take an interest in meteorology, to include this institution in their programme when they pay a visit to the "model settlement."

II. Summary, and General Remarks.

The chief characteristics of the season then are a high day temperature, a comparatively low night temperature, a high degree of humidity during the rainy season, and the more than usual distribution of rain over the six months.

The very high temperature in the sun as shown by the solar radiation thermometer is probably in a great measure to be ascribed to the humidity of the air, for it has been shown by TYNDALL that on days when the humidity is great, the sun thermometer is continually gaining heat from the sun's rays with scarcely any obstruction from the moisture, while the radiation of invisible heat from the thermometer is all but prevented by it. In practice, it has been found that it is in such weather that the greatest number of cases of insolation occur. The obvious lesson is that we should be more than usually careful to protect ourselves on days when both temperature and humidity are great.

It is a matter of general remark that the past summer was a very oppressive one. This was in a great measure due to its length, and the moisture of the air in May, June and September. The heat set in at the beginning of June and did not leave us till after September. June was intensely hot and enervating, and it was at this time that we had the greatest amount of diarrhoea. Indeed, during this month it is not too much to say that we were all ailing more or less.

Dry heat is comparatively easily borne, but heat and moisture combined soon enfeeble even the most vigorous. "In experiments in ovens, BLADGEN and FORDYCE bore a temperature of 260° with a small rise of temperature ($2\frac{1}{2}^{\circ}$ Fahr.), but the air was dry, and the heat of their bodies was reduced by perspiration; "when the air in ovens is very moist and evaporation is hindered, the temperature of the body rises rapidly." (PARKES:—*Practical Hygiene*. pp. 401-2.)

The effects of a still, moist, hot atmosphere on the human subject, as judged by the sensations, are to relax the muscular system and to induce general languor and disinclination for exertion. On the mind the effect is no less depressing; mental work is performed with reluctance, and the temper is apt to get irritable, leading to the entertaining of petty annoyances that would be passed over unnoticed in more favourable hygienic surroundings. Towards the end of the rainy season, however, a rise in the temperature is welcomed as a positive good, on the principle I presume that evaporation from the skin proceeds more rapidly than is proportional to the rise of the thermometer. I have several times heard it remarked by visitors from the Australian Colonies that though the thermometer there often stood much higher than with us, they had never experienced the debility induced by our weather in May.

Fortunately this state of matters does not last long. As a general rule clear weather sets in about the beginning of June, and during the hot months of July and August the extreme heat is tempered by the sea breeze in the afternoon and the land breeze that usually blows down the river after midnight. About the end of August northerly and easterly winds generally prevail, and continue more or less regularly until the beginning of October when the N.E. monsoon sets in, and the hot season is over.

Abstract of Meteorological Observations taken at the Harbour Master's Office,

Latitude 35° 58' 22" North. Longitude

DATE.	BAROMETER, No. 272.		THERMOMETER.				HYGROMETER.					
	Corrected for Index error, Capillary attraction and to temperature of 32°.		Dry bulb, corrected reading for Index error, No. 172.		Wet bulb, corrected reading for Index error, No. 173.		Temperature of dew point computed.		Elastic force of vapour.		Humidity 0-1.	
	Taken at 9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.
1874.												
April,	Max. 30'275	30'223	76'2	90'0	72'6	74'9	71'0	72'0	759	786	937	896
	Mean 30'099	30'017	64'2	69'8	58'3	60'9	53'8	54'6	430	438	703	607
	Min. 29'833	29'705	53'9	56'4	51'1	51'1	40'4	40'5	251	208	421	304
May,	Max. 30'887	30'029	81'2	88'4	75'5	80'8	73'9	78'3	837	967	946	960
	Mean 29'855	29'792	72'3	75'5	68'1	70'4	66'0	68'0	647	696	815	784
	Min. 29'610	29'596	58'2	59'7	56'8	58'0	54'0	55'4	417	440	645	561
June,	Max. 29'932	29'900	90'9	94'3	81'9	84'9	79'6	82'1	1'010	1'097	892	897
	Mean 29'793	29'734	84'9	86'9	78'6	79'7	75'7	77'0	896	931	745	731
	Min. 29'672	29'615	68'9	73'4	67'4	67'3	59'3	64'2	505	601	613	617
July,	Max. 29'816	29'759	89'0	97'0	83'0	84'3	82'2	81'8	1'101	1'087	948	928
	Mean 29'702	29'636	84'6	89'3	78'5	80'5	76'3	77'5	901	946	767	691
	Min. 29'473	29'438	78'8	76'5	74'6	75'4	72'5	72'3	704	793	667	515
August,	Max. 29'868	29'807	88'9	95'1	81'2	88'1	78'7	87'2	989	1'290	923	911
	Mean 29'744	29'677	83'9	88'0	79'0	81'8	77'4	79'2	939	1'001	809	762
	Min. 29'529	29'461	79'0	79'8	77'6	77'6	75'6	75'9	885	893	720	610
September,	Max. 29'978	29'999	86'7	93'5	82'7	86'7	81'7	85'0	1'080	1'204	988	991
	Mean 29'871	29'805	81'1	83'6	77'8	80'1	76'6	79'0	921	1'012	863	861
	Min. 29'502	29'458	71'6	71'7	69'2	69'1	67'4	67'5	670	673	777	735

NOTE.—Dew point, Elastic force of Vapour and Humidity computed from Dr. Aron's Formula.

Pagoda Anchorage, Foochow, for six months ended 30th September 1874.

119° 27' 40" East. Height above the sea 30 feet.

SELF-REGISTERING THERMOMETER.			Rain 24 hours.	WIND.				CLOUDS.			
Solar radiation Ther- mometer No. 77072.	Maximum in Air.	Minimum in Air.		Velocity in miles per hour.	Force in lbs. per square foot.	Velocity in miles per hour.	Force in lbs. per square foot.	Summary of direction.		0—10.	
								9.30 A.M.			3.30 P.M.
9.30 A.M.	9.30 A.M.	9.30 A.M.	Inches.	9.30 A.M.	9.30 A.M.	3.30 P.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.
155°0	90°0	67°8	.492	16°61	1°37	17°67	1°56			1 at 10 4 " 9 7 " 8 4 " 7 1 " 6 2 " 5 3 " 4 6 " 2	7 at 9 2 " 8 2 " 7 4 " 6 3 " 5 4 " 4 3 " 3 1 " 1
126°0	72°2	56°4	.063	7°52	0°28	8°84	0°39			9 at 10 3 " 9 4 " 8 4 " 7 5 " 6 1 " 5 1 " 4 1 " 3 1 " 2	7 at 10 7 " 9 9 " 8 7 " 7 6 " 6 2 " 5 1 " 4 2 " 3 1 " 2
67°0	59°2	47°6	.000	4°11	0°08	2°50	0°03				
152°0	90°8	75°4	1°351	17°50	1°53	27°00	3°65				
121°0	78°1	66°4	.245	6°99	0°25	8°46	0°36				
78°0	64°2	56°8	.000	2°94	0°04	1°17	0°01				
165°5	96°1	79°0	.880	11°66	.687	18°50	1°750			1 at 10 4 " 9 4 " 8 3 " 6 4 " 4 6 " 3 5 " 2 2 " 1	1 at 10 2 " 9 4 " 8 3 " 6 4 " 5 3 " 4 4 " 3 8 " 2
149°5	90°8	75°7	.113	7°67	.290	9°90	.490				
97°0	81°0	67°0	.000	3°26	.019	2°70	.031				
162°0	97°4	79°5	6°255	16°28	1°328	25°17	3°175			3 at 9 4 " 8 1 " 7 2 " 6 3 " 5 4 " 4 7 " 3 1 " 1	2 at 10 2 " 9 3 " 8 3 " 6 4 " 5 5 " 4 8 " 3 1 " 2
153°3	91°4	76°4	.244	6°89	.254	10°46	.547				
119°0	82°6	72°8	.000	3°39	.057	3°83	.073				
166°2	97°6	83°9	1°230	10°50	.550	13°50	.911			4 at 9 4 " 8 4 " 7 6 " 6 6 " 4 4 " 3 3 " 2	5 at 9 4 " 8 4 " 7 2 " 6 4 " 5 4 " 4 4 " 3 4 " 2
149°9	91°5	76°7	.118	6°04	.182	7°68	.294				
115°8	83°4	73°7	.000	3°67	.067	3°33	.055				
161°3	96°2	80°5	1°240	22°06	2°433	23°00	2°645			6 at 10 3 " 9 1 " 8 1 " 7 3 " 6 1 " 5 2 " 4 9 " 3 3 " 2	3 at 10 5 " 9 4 " 8 4 " 7 2 " 6 5 " 5 1 " 4 3 " 3 3 " 2
138°4	87°7	75°1	.117	7°85	.308	9°17	.420				
91°1	73°8	68°0	.000	2°22	.024	3°50	.061				

Rain Gauge above ground 4 feet 9 inches.

III. *The Season and Health and Disease.*

From the above review of the season, a large amount of sickness and a high mortality would probably be predicted. This, however, has not been borne out in fact; on the contrary, the cases have been, as a rule, so slight and unimportant that I have not thought it necessary to prepare a nosological table this time.

There was only one death during the six months, and that was a case of chronic dysentery that the patient had neglected. Death occurred in the usual way—from hæmorrhage by ulceration through the coats of a vessel in the lower bowel.

This immunity from serious disease is doubtless in a great measure due to the advantages we enjoy at this port in the physical conformation of the country, to which I referred at some length in the last Report. The principal complaints were diarrhoea, and what I may call generally "heat malaise," and these were undoubtedly climatic. Intestinal catarrh is a subject so extensive that it would require a report to itself, and I hope to have a future opportunity of returning to it. In the mean time, I feel justified in stating as my belief, after a long experience here, that heat and moisture *per se* are capable of producing and do produce this disease. No other explanation offers to my mind, for the disease during the hot months and especially during May and June obtains not only among the sailors afloat but also among the residents, and these latter live always in the same circumstances as regards water, food, location, &c.

The diarrhoea this season, though more prevalent than I have ever seen it before, was of the usual mild, summer type, and out of several hundreds of cases treated there was no death. The great majority yielded to very simple treatment.

IV. *Beriberi.*

I had this season for the first time an opportunity of seeing two cases of this curious and obscure disease. The patients were sailors in a coasting vessel that arrived here from Singapore, and were natives of the Malayan Archipelago.

I got the following information concerning the disease as it occurs in the Cocos Islands from the chief officer of the vessel, who is a native of these islands, and on whose accuracy I think I can depend:—

"Beriberi first appeared in the Cocos about 5 years ago. There is a small island only 15 miles from the Cocos called Kuling in which the disease is unknown, and the latter island is used as a sanatorium; people coming from the Cocos generally get cured in Kuling. In the Cocos the natives live mostly on salt-fish—often in a putrid state—and sweet potatoes. In Kuling they eat birds and rice. The dietary of the latter is therefore superior to that of the former island, and it is to the poor food in the Cocos that the disease is generally attributed. Beriberi appeared in the Cocos just after the bush had been cut down, but whether these events exist to each other in the relation of cause and effect it is impossible to say. People subject to the disease have usually two attacks in the year. It commences generally with slight pain in the knee, at first without swelling; the lower legs then begin to enlarge and the swelling is most marked round the ankle. The swelling then proceeds to the abdomen and sometimes to the arms. In advanced cases there is always effusion, as evidenced by pitting on pressure. The pain, at first slight, increases until it becomes very severe, and stiffness and often numbness of the lower limbs supervene. When the swelling involves the abdomen there is great thirst experienced, and these cases always die. The mortality, speaking roughly, is about 20 per cent."

The chief features of the two cases that came under my observation were swelling, pain, and stiffness of the lower limbs; they also pitted on pressure. The swelling was most marked at the knees and ankles. The abdomen was more tense than normal in one of the cases, but in neither could any fluctuation be detected. The pulse in one of the men was rather quick and weak, in the other regular and otherwise normal. The heart sounds and temperature were normal in both cases. Perhaps the most marked symptom was puffiness of the face and especially of the lower eyelids. Both patients presented an anæmic appearance. Under generous diet and iron and quinine both improved so much during the stay of the vessel in port that the men voluntarily resumed work.

AITKEN states the mortality of Beriberi as about 26 per cent, and he seems to regard the disease as a form of anæmia. From the observation of two cases only, I do not feel justified in expressing an opinion.

V.—I add some observations of air temperature which I caused to be taken at the Monastery of Kushan during part of July and August last summer.

I must mention that these observations do not pretend to the scientific accuracy of the others, and I introduce them here only as an object of local interest, since this mountain is a favourite health resort in summer. The thermometer used was compared with one of those of the Meteorological Society and the index error noted. The readings may be taken as correct to about one degree Fahr.

TEMPERATURE OBSERVATIONS in the shade taken at the Monastery of Kushan from the 4th July to the 9th August 1874, and compared with those taken at Pagoda Anchorage at the same hours.

DATE.	KUSHAN.			ANCHORAGE.
	9.30 A.M.	3.30 P.M.	Means.	Means.
July 4,	79	84	81.5	87.2
" 5,	78	84	81	88.9
" 6,	82	86	84	88
" 7,	80	88	84	89.4
" 8,	78	78	78	79.5
" 9,	75	78	76.5	83.8
" 10,	76	84	80	87.1
" 11,	78	84	81	87.5
" 12,	79	83	81	87.3
" 13,	78	83	80.5	85.7
" 14,	79	84	81.5	87.9
" 15,	79	82	80.5	87.1
" 16,	76	80	78	88
" 17,	78	79	78.5	88.1
" 18,	75	75	75	81
" 19,	76	79	77.5	83.3
" 20,	77	80	78.5	82.9
" 21,	77	81	79	86.7
" 22,	77	81	79	86.3
" 23,	76	78	77	86.9
" 24,	74	76	75	87.2
" 25,	74	80	77	87
" 26,	75	83	79	89
" 27,	79	86	82.5	91.1
" 28,	78	84	81	88.9
" 29,	79	83	81	92
" 30,	78	82	80	87.9
" 31,	78	83	80.5	85.2
August 1,	79	82	80.5	82
" 2,	79	84	81.5	87.4
" 3,	79	84	81.5	86.7
" 4,	79	86	82.5	88.8
" 5,	79	84	81.5	90.9
" 6,	79	82	80.5	86.4
" 7,	77	81	79	87.8
" 8,	77	80	78.5	82.5
" 9,	77	80	78.5	83.8

The Monastery of Kushan is situated in the midst of lovely scenery, at an elevation of about 1,400 feet above the sea level. Comparing these means with those of the anchorage for the same period, we find the mean difference of temperature to be only a little over 6.8°, say in round numbers 7°, and this affords another example of the fact that the mere height of the thermometer is not a certain indication of heat as communicated by the senses. The air at this place feels fresh, balmy and "light," and one never experiences the languor and depression of the lower grounds.

If only tolerable accommodation were to be had, few pleasanter places could be desired by those who are fortunate enough to be able to leave the river during the hottest months, and it has always been matter of surprise to me that an intelligent and influential community like that of Foochow has not long ago established a sanatorium on a mountain within such easy reach of the settlement.

The only quarters available at present are confined and dirty. The houses are wood and plaster structures built on piles, and the foundations are occupied by rubbish and filth of all sorts. Yet so much is the locality appreciated that these objectionable rooms are engaged every year long before the hot weather sets in.

I.—Dr. C. M. SCOTT'S Report on the Health of Swatow for the half year ended
30th September 1874.

TABLE of Diseases treated during the half year.

	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Remittent Fever,	6	11	6	13	9	13	58
Diarrhoea,	2	7	2	17	10	11	49
Dysentery,	1	—	1	—	2	1	5
Cholera,	—	—	—	—	1	3	4
General Syphilis,	1	—	1	3	1	4	10
Hard Chancre,	1	—	—	—	—	—	1
Sloughing Chancre,	—	—	—	1	—	—	1
Soft Chancre,	2	—	2	1	2	1	8
Bubo,	—	—	1	—	1	—	2
Gonorrhoea,	3	5	2	2	2	1	15
Orchitis,	1	1	—	—	1	2	5
Abscess of Liver,	—	1	—	—	—	—	1
Jaundice,	2	—	1	—	—	1	4
Congestion of Liver,	1	1	—	—	1	1	4
Hepatic Dropsy,	—	—	—	1	—	—	1
Ulceration of Throat,	2	1	—	—	1	—	4
Bronchitis,	2	1	—	—	—	—	3
Boils,	2	1	2	5	3	2	15
Rheumatism,	2	—	1	2	4	3	12
Round Worm,	3	1	2	3	1	1	11
Tape Worm,	—	—	—	1	1	1	3
Sunstroke,	1	—	—	—	—	1	2
Dyspepsia,	—	1	1	—	—	3	5
Neuralgia,	—	1	1	1	—	—	3
Herpes,	—	1	1	1	2	1	6
Leucorrhoea,	—	2	—	1	—	2	5
Colic,	—	—	1	—	—	1	2
Piles,	—	—	1	—	2	1	4
Ulcer,	—	—	1	1	1	—	3
Convulsions,	—	—	—	1	—	—	1
Phthisis Pulmonalis,	—	—	—	1	1	1	3
Croup,	—	—	—	—	—	1	1
Enteritis,	—	—	—	1	—	—	1
General Debility,	—	1	—	1	—	1	3
Abscess,	—	—	1	—	—	—	1
Menorrhagia,	1	1	—	1	1	2	6
Sprain,	—	—	—	—	1	—	1
Fistula,	—	—	—	—	—	1	1
Hysteria,	—	—	1	—	—	—	1
Erysipelas,	—	—	1	—	—	—	1
Otitis,	—	—	—	—	—	1	1

It will be seen from this table that the disease most frequently met here is remittent fever. Almost every European suffers from it at some time, but fortunately it is of a very mild type, and soon yields to quinine. In bad cases I am in the habit of giving the quinine with blue pill, in which combination it is not so liable to cause nausea. I have, after a long experience, found small doses of mercury to be most useful in such cases. Intermittent fever is almost unknown here. Next in the order of frequency comes diarrhoea. Its treatment must vary according to such an infinite number of circumstances that no rule can be laid

down. Dysentery is not at all a common disease here. When seen in the acute stage, I always give a scruple of jalap with 10 grains of calomel, which I find acts admirably, the after treatment being small doses of mercury with chalk and DOVER'S powder. I have treated many cases with ipecacuanha, but do not like it. In chronic cases I use quinine, DOVER'S powder, mercury with chalk, and tannic acid, with very good effect. With regard to congestion and inflammation of the liver, I gladly express my belief in the great value of local bloodletting. Cupping is to be preferred to leeches, as the quantity of blood taken is accurately known. Syphilitic diseases of all forms are very numerous. Here we are much addicted to the mercurial vapour bath, and to PLUMMER'S pills.

Cholera has been very severe in this district during the last five months, and I understand that the Chinese have died in great numbers. Europeans have not felt it much. Only four cases came under my observation, and all of these were on board ships in the harbour, but of them only two were Europeans. Two were fatal, one European and one native. The treatment adopted was small doses of calomel every half hour, and as much sodawater as they could drink; but I cannot say much in favour of it. Should the disease appear next year, I intend to try the injection of chloral hydrate. The first case known of was in May, and the disease was at its worst in September. The disease was travelling from south to north, and I think it possible it may make its appearance in Amoy, Foochow or Shanghai next year. As to quarantine regulations I fear they are almost useless, unless they are applied to native as well as to foreign vessels. Cholera has not been epidemic here since 1865.

*J.—Drs. JONES and MANSON'S Report on the Health of Amoy for the
half year ended 30th September 1874.*

THE half year has been characterised by high temperature, and, especially during the first three months, by heavy rain-fall and the prevalence of moist muggy weather.

Diarrhœa, usually common enough at the commencement of a hot season, was more than usually prevalent, and very intractable in some cases, both in children and adults. In nearly all the cases the liver was more or less at fault, and the accompanying fever although not high was very well developed and decidedly remittent in its type. In some few cases the congestion of the liver was severe, threatening in one case to become inflammatory.

There has been no epidemic, but it was feared that cholera might reach us, as it was as near as Saigon. As far as possible ships from suspected ports were inspected previous to entering the harbour. Three deaths occurred; one infant died of cyanosis, due to malformed heart, a few days after birth. The disease was well marked from the first moment of life. We regret that circumstances prevent us from giving, as has hitherto been our custom, a table showing the health of the crews of the vessels trading to this port.

Two of the deaths mentioned above occurred amongst the crews of the vessels. In one, a Malay who died on the day of arrival, the cause of death was not ascertained, as no post-mortem was permitted. The other, a European, died of phthisis pulmonalis.

We record the following cases of varicose lymphatics of the scrotum, or "lymph scrotum," in continuation of those described in the *Customs Medical Reports* No. 5, page 9. On account of the rarity of the disease and because we think that some of the cases present features of unusual interest, we refer to those cases where elephantiasis and "lymph scrotum" were combined, and where a chylous state of the urine took the place of the discharge of lymph from the scrotum after its removal.

We give the cases in the order in which they presented themselves at the Chinese Hospital and in continuation of those given in the former number of these Reports. The notes of the cases were taken by a Chinese assistant.

9.—TIKOR; 67 years old; coolie; a native of Chang-chow, unmarried; a poor man, whose usual food was sweet potatoes, rice and salted vegetables. His elder brother and mother died of "Dropy." When 6 years old he had an attack of fever and ague which lasted for a few days. When 8 years old he had a second attack of fever accompanied by inflammation and swelling of the left thigh. An abscess formed and was opened by a Chinese practitioner, giving vent to a large quantity of pus. The abscess remained open for three months. When 30 years old he again had ague and fever complicated with pain and swelling of the inguinal glands; the fever and the swelling of the glands disappeared after a few days. From this time he was subject to attacks of fever and ague, sometimes three or four times a year, sometimes only once in about 3 years, always accompanied by swelling of the inguinal glands, the swelling subsiding on recovery from the fever. In April 1874, he had a severe attack of fever and ague, and the inguinal glands, as usual, enlarged, but, on the patient's recovery from the fever, the swelling did not subside. The scrotum commenced to enlarge and numerous vesicles formed on its surface. The vesicles, getting over-distended, burst, giving vent to a large quantity of fluid, the scrotum at the same time shrivelling up to its proper dimensions. The ruptured vesicles soon healed up, but after two or three days the same process of swelling, rupture and discharge would be repeated. On coming to hospital the inguinal glands were enlarged, the individual glands being as large as pigeon's eggs, but not painful to the touch. The scrotum was as large as an ordinary rice bowl, hard, and studded with vesicles which, on being punctured, discharged a large quantity of fluid. The first few ounces discharged were quite clear, gradually assuming a reddish tinge till the last few ounces, which resembled blood.

10.—KUGHOK; 25 years old; a native of Chin-chow, living at the south gate of the city; a labourer by occupation; his usual food was rice, sweet potatoes and salted vegetables. When 16 years old, in the seventh month of the Chinese year, he had fever and ague which lasted for four days, and during this time the scrotum got inflamed and swollen. When the fever was past, the inflammation and swelling subsided. From this time he has had ague twenty or thirty times a year, his inguinal glands and scrotum enlarging, the latter gradually becoming covered with small vesicles which on bursting would discharge about 12 ounces of a milky fluid. On admission to hospital the patient was seen to be strong and well-built, and, with the exception of slight anæmia, had the appearance of a man in the enjoyment of good health. He stated that he had been passing "white" urine for some weeks past. On examining the scrotum it was found to be much enlarged, the skin thick and coarse, the penis almost completely buried, presenting in fact the usual appearances of an elephantised scrotum of about 2 pounds weight, with, in addition, numerous transparent vesicles covering the surface. On puncturing one of the vesicles about 10 ounces of fluid were discharged, first portion clear like water, gradually becoming like milk, and the last few ounces like a mixture of blood and milk. On the following day his urine, which was chylous before, became natural. The operation for elephantiasis, as practised here, was performed after a few days' preparatory treatment. The wound healed up rapidly, and in three weeks he left for home with the wound cicatrized and to all appearances a healthy scrotum. On examining the scrotum after removal it was found to weigh 2 pounds and to present the usual appearances of elephantiasis, a strong outer rind of about half an inch in thickness and the interior filled with a gelatinous mass. The vesicles on the surface communicated with this central part; a wire could be passed from the one to the other.

11.—TANHO; 63 years old; native of Amoy; a fisherman; his usual food consisted of rice and sweet potatoes, fish, pork and salted vegetables. His father died of fever and his mother of phthisis. He was always a very healthy man and to the best of his knowledge never suffered from fever. When 40 years of age he had a fight in the course of which his opponent caught hold of his scrotum, bruising it considerably. A Chinese practitioner prescribed for him and he got well in 10 days. When 53 years old he noticed that his scrotum became enlarged and covered with vesicles containing a clear fluid; some of the vesicles bursting, the fluid was discharged, and in a few days he was as well as before. From this time till now, 10 years, his scrotum has enlarged once every summer and vesicles have formed and burst. In the intervals he is perfectly well. On coming to hospital the man appeared to be in good health. His scrotum was enlarged and covered with vesicles, on opening one of which about six ounces of a milky fluid and of the usual character were discharged.

12.—OUGBI; 35 years old; native of Amoy; a fisherman; his every day food was rice, sweet potatoes, fish and salted mustard-plant. His father died of cholera. When 16 years old he suffered from quotidian ague for one month in the spring of the year. When 25 years old he had another attack of ague, his scrotum at the same time getting inflamed and swollen. When the ague was past, the inflammation and swelling subsided, no vesicles having formed. From his 25th to his 32nd year he had ague several times a year along with an inflamed scrotum. When 33 years old he had a severe ague with inflammation and swelling of the scrotum, which now, for the first time, got covered with numerous vesicles. The vesicles burst, discharged a large quantity of clear fluid, and then healed up, but in a few days the scrotum again enlarged and emptied itself. This process has gone on to a greater or less extent ever since, sometimes accompanied by fever, sometimes not. On coming to hospital one of the vesicles was opened and 12 ounces of a straw-coloured fluid were discharged. He complained of giddiness immediately afterwards. The inguinal glands were considerably enlarged.

13.—IKHAU; 25 years old; a field labourer from the neighbourhood of Amoy; his usual food was rice, sweet potatoes, salt vegetables and salt fish. He was always well until 19 years old when he had a quotidian ague which lasted for four months. From that time he suffered from ague every winter, each time for about three or four months. When 22 years old and during an ague attack he noticed that his scrotum got slightly swollen and that a few small vesicles formed on its surface. On cutting open one of them a

small quantity of fluid like water was discharged. The inguinal glands were enlarged. From that time up to January 1873 the scrotum enlarged regularly once a month, the fluid becoming gradually more copious and milky in appearance. On 8th August he came to hospital. One of the vesicles was opened and 12 ounces of a watery fluid of a light red colour were discharged. The inguinal glands on both sides were enlarged to the size of hen's eggs.

14.—*ЛИМНОКОМЪ*; 27 years old; a field labourer from the neighbourhood of Amoy; he lived on rice, sweet potatoes, salt fish and salt vegetables. His father died of "fever." He had always been healthy previous to his 18th year when, during the winter, he had an attack of ague accompanied with pain and swelling of the lower part of the left side of the scrotum. An abscess formed and about 12 ounces of pus were discharged. When 24 years old he had another ague accompanied by pain and swelling of the glands and scrotum. In the following year he again had ague and inflamed scrotum, and this time numerous vesicles formed on the upper half of the scrotum, which on bursting discharged about 12 ounces of a white milky fluid. From this time the scrotum would enlarge sometimes once a week, sometimes once in 14 days, and sometimes once a month, each time discharging about 10 ounces. His scrotum was covered with minute white vesicles, which on being cut discharged 16 ounces of a reddish-white fluid. After the removal of the fluid the patient felt very giddy. Inguinal and femoral glands much enlarged. Patient suffering from intense anemia.

15.—*КОАГИ*; 31 years old; living at the east gate of Chang-chow; a field labourer; his usual food was rice, sweet potatoes, salt mustard-plant and fish. He enjoyed good health up to his 26th year when, during the autumn, he contracted fever and ague accompanied by swelling and inflammation of the scrotum and glands of the groin. After recovery from the fever numerous vesicles appeared on the scrotum, full of clear fluid. He suffered much at the time from itchiness of the scrotum. On coming to hospital the skin of the upper part of the scrotum was covered with numerous vesicles which on puncture discharged 10 ounces of straw-coloured fluid; the skin covering the penis was very much thickened and elongated so that the glans was invisible—elephantiasis; the inguinal glands were enlarged. The skin of the penis and that of the upper part of the scrotum where the varicose lymphatics could be seen, were removed by the knife and the parts allowed to granulate. Within a month a good cicatrix had formed and the patient left for home.

16.—*ТАН-НОК*; 26 years of age; native of Chin-pho; a field labourer, living on rice, sweet potatoes, salt fish and salt mustard-plant. His father died from scrofula and his mother from phthisis. When 10 years old he had fever and ague which lasted for about 30 days. When 23 years old he contracted fever and ague a second time, accompanied by pain and swelling of the inguinal glands and of the scrotum. After about three weeks and when the fever had subsided, the scrotum became covered with numerous small vesicles which caused much annoyance by constant itching. After 10 months a vesicle burst, discharging a considerable quantity of white fluid. From that time, sometimes once in five days, sometimes once in 10 or 20 days, a vesicle would burst, discharging 10 or 15 ounces of fluid. The patient always became giddy either during the time that the fluid was discharging or immediately afterwards.

On coming to hospital he was suffering much from anemia and debility, but his appetite and digestion were unusually good. A vesicle was cut open and fluid at first white and afterwards of a reddish white colour continued to be discharged until the afternoon of the following day. The fluid measured 54 ounces, not including some few ounces which were unavoidably lost. Four days afterwards he had a second discharge of fluid, 12 ounces, from the same vesicle as we had opened. A week afterwards the patient called attention to his urine which, he said, he had been unable to pass for eight or ten hours—the urine was in large quantity, of a reddish white colour and coagulated rapidly. He complained of pain in the passage. After a few days the urine again became natural. The diseased part of the scrotum was removed by the knife and the parts healed up rapidly, but on the day following the operation the urine became white like milk and in quantity about 20 ounces. After three weeks he went home. Two months afterwards he returned to hospital. He stated that his urine still continued white—sometimes it was almost natural. A small patch, about one inch square, of the skin of the scrotum was seen to be covered with vesicles. It was excised. Since then he has been passing large quantities of chylous urine; on an average 70 to 80 ounces in 24 hours.

During the night before this Report is closed he has passed 49 ounces of urine, in appearance closely resembling milk and of S. G. 1015. We have searched both in the blood and urine of this patient for the *filaria* described as existing in persons with chylous urine, but have failed to detect it. We think that in this case the chylous urine was probably due to a varicose state of the lymphatics of the kidneys—a state similar to that which existed in the scrotum before it was removed.

The combination of lymph scrotum and elephantiasis as recorded in two of these cases, and a study of the general history of both affections, lead one to believe that they are the same disease. In lymph scrotum the lymph is discharged by the rupture of the lymphatics, and in elephantiasis it is converted into a very lowly organised tissue.
