

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

**MEDICAL REPORTS,**

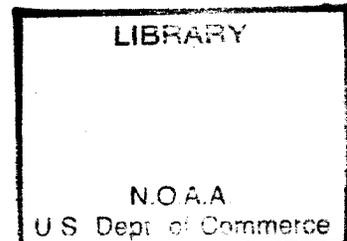
FOR THE HALF-YEAR ENDED 31<sup>ST</sup> MARCH, 1878.

**15th Issue.**

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PUBLISHED BY ORDER OF

**The Inspector General of Customs.**



SHANGHAI:  
STATISTICAL DEPARTMENT  
OF THE  
INSPECTORATE GENERAL  
MDCCCLXXVIII.

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# **National Oceanic and Atmospheric Administration**

## **Environmental Data Rescue Program**

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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  $\left\{ \begin{array}{l} \text{Season.} \\ \text{Alteration in local conditions—such as drainage, \&c.} \\ \text{Alteration in climatic conditions.} \end{array} \right.$

e.—Peculiar diseases; especially leprosy.

f.—Epidemics  $\left\{ \begin{array}{l} \text{Absence or presence.} \\ \text{Causes.} \\ \text{Course and treatment.} \\ \text{Fatality.} \end{array} \right.$

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—

\* \* \* \* \*

I am, &amp;c.,

(signed)

ROBERT HART,

I. G.

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

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SHANGHAI, 30th June 1878.

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 Shanghai, pp. 1-10;

B.—Report on the Health of Canton, pp. 11-16;

C.—Report on the Health of Chefoo, pp. 17-20;

D.—Report on the Health of Ningpo, p. 21;

E.—Report on the Health of Swatow, pp. 22-24; and

F.—Report on the Health of Amoy, pp. 25-27; each of these referring to the half-year ended 31st March 1878.

G.—Report on the Health of Newchwang, pp. 28-35; and

H.—Report on the Health of Takow and Taiwan-fu, pp. 36-37; each of these referring to the year ended 31st March 1878.

I.—Report on the Sanitary condition of Wénchow, pp. 38-47.

Notes on the Diseases affecting Europeans in Japan, pp. 48-80. For this valuable paper I am indebted to Dr. ELDRIDGE of Yokohama, and I have gladly inserted it as complementary to the series of Reports on disease in China.

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—

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F. WONG, M.D., L.R.C.S.E. ....	Canton.
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E. I. SCOTT, L.K.&Q.C.P., L.R.C.S.I. ....	Swatow.
D. MANSON, M.D., CH.M. ....	Amoy.
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T. RENNIE, M.D., CH.M. ....	Takow and Taiwan-fu.
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S. ELDRIDGE, M.D. ....	Yokohama.

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A.—Dr. Alexander JAMIESON'S Report on the Health of Shanghai for the  
Half-year ended 31st March 1878.

ABSTRACT of Meteorological Observations taken at the Observatory of the Jesuit Mission at  
Sicawei, for the six months ended 31st March 1878. Latitude, 31° 12' 30" N. Longitude  
E. of Greenwich, 8<sup>h</sup> 5<sup>m</sup> 44.63<sup>s</sup>.

DATE.	Barometer at 0° C.	THERMOMETER.		Elastic Force of Vapour.	Humidi- ty.	Ozone.	Evapora- tion during 24 hours.	Rainfall in 24 hours.	Velocity of Wind, observed hourly.	Mean Direction of Wind.	REMARKS.
		Temperature in Shade, observed at intervals of three hours.	Extreme Temperature in Shade.								
1877.	mm	°C.	°C.	mm of Mercury.	0-100.	0-21.	mm	mm	M. per sec.		
Oct.....	Max ...	774.08	27.50	28.10	14.90	100.00	12	6.58	7.6	14.79	N. 38° 2 W.  Three hurricanes during this month; on 10-11th, 19-20th and 24-25th. Cold weather set in with severity on the 25th.
	Mean ...	765.68	15.50	16.30	9.08	69.80	8	112.27*	13.8*	3.18	
	Min....	758.52	2.50	1.10	2.30	15.00	2	1.24	0.3	0.00	
	Range	15.56	25.00	27.00	12.60	85.00	10	5.34			
Nov.....	Max ...	777.27	20.20	21.90	15.10	100.00	19.5	3.26	39.6	10.28	N. 4° 6 E.  Remarkably rainy; 18 days rain instead of 4 (the average of the four preceding years). Hurricane on 15th.
	Mean ...	768.34	11.23	11.52	8.44	82.40	11.5	48.78*	150.6*	3.77	
	Min....	757.70	2.50	1.90	4.30	49.00	7	0.37	0.4	0.00	
	Range	19.57	17.70	20.00	10.80	51.00	12.5	2.89			
Dec.....	Max ...	779.77	14.60	14.80	12.00	100.00	18	2.52	21.4	13.33	N. 13° 3 E.  Gale on 12th. On 29th north- westerly winds set in definitely with excessive cold.
	Mean ...	769.06	5.95	5.96	6.06	83.30	10.8	35.90*	78.9*	3.69	
	Min....	755.83	- 2.10	- 4.10	2.70	30.00	5	0.16	0.1	0.00	
	Range	23.94	16.70	18.90	9.30	70.00	13	2.36			
1878. Jan.....	Max ...	780.75	16.00	16.10	9.00	99.00	21	The	36.3	11.05	N. 19° 5 W.  On the 1st and 2nd heavy snow giving 36 mm. of water. Minimum temperature on the 4th at 10 P.M. -11°. The whole month was ex- tremely cold. There were 8 days of rain, out of which it snowed on 7.
	Mean ...	772.42	- 0.45	0.02	3.68	80.70	11.4	évaporo- mètre	86.5*	3.33	
	Min....	757.75	- 11.00	- 11.00	1.80	39.00	5	frozen.	1.5	0.00	
	Range	23.00	27.00	27.10	7.20	60.00	16				
Feb.....	Max ...	779.59	10.10	10.40	8.70	100.00	21	2.61	23.2	10.98	N. 7° 2 E.  Snow on the 8th, 14th and 19th. 15 days of rain.
	Mean ...	771.04	3.02	3.24	4.75	81.50	12.2	34.00*	107.1*	3.77	
	Min....	759.27	- 5.20	- 5.30	1.50	34.00	7	0.17	0.3	0.00	
	Range	20.32	15.30	15.70	7.20	66.00	14	2.44			
March..	Max ...	775.50	26.10	26.50	14.20	100.00	21	9.42	10.1	12.60	N. 83° 5 E.  Storms during mornings of 22nd and 27th. On the 25th very heavy dust-storm with strong W. and N.W. wind.
	Mean ...	768.37	8.70	9.23	6.28	76.00	11.2	87.00*	33.3*	3.40	
	Min....	752.76	- 1.00	- 1.00	2.70	25.00	7	0.17	0.1	0.00	
	Range	22.74	27.10	27.50	11.50	75.00	14				

\* Total for month.

N.B.—The maxima and minima under each month are those noted at the actual hour of observation, except in the cases of *Rain-fall* and *Evaporation*, where the maxima and minima mark the greatest and least amounts for one period of 24 hours. The means are those of the month, but it will be noticed that under the same two headings the *total* for the month is given instead of the *mean*.

The winter of 1877-78 was severe throughout China. The mean temperature for the three months December, January and February deduced from the Sicawei observations for the previous five years was  $39^{\circ}45$  F. Last winter the mean was  $37^{\circ}12$  F. It was in January that the cold was most rigorous. On the morning of the 5th of that month a thermometer exposed to nocturnal radiation marked  $8^{\circ}06$  F.

A consideration of the Meteorological records of the Sicawei observatory for the last few years renders it evident that in this latitude there exists in the upper strata of the atmosphere a strong current flowing almost exactly eastward, and generally recognisable by the cloud masses which it bears along with it. During 1877 this current was remarkably constant, while its depth, to judge by the *cirri* which it transported, was always considerable. It is not improbable that during last year and this, and especially during last year, this aerial stream, whose direction is at right angles to the currents which flow charged with vapour from the equator to pour their rain on the northern regions, may have opposed an impassable barrier to those currents. The intercepted vapour would thus be borne in the form of clouds from west to east in the latitude of Shanghai instead of pursuing its course towards the northern provinces which it was destined to water. Hence, in all probability, the terrible drought which has visited those unhappy districts, and, as a necessary consequence, the extraordinary rainfall in Kiangnan during 1877 and the first quarter of 1878. Thus, while the four years 1873-76 gave an average of 109 rainy days per annum at Sicawei, and of 37 rainy days from the opening of each year to the middle of April, the corresponding numbers for 1877 and the first three-and-a-half months of 1878 have been 143 and 47.

According to certain meteorologists who have only suspected the existence of this upper current, whose extreme limit may from time to time be very low, it is a bifurcation of the upper return-trade (*contre alizé*) which blows normally from S.W. to N.E. When approaching the surface of the earth this derived current turns to the N.W., then to N., and finally to N.E., thus constituting the tropical trade wind. The bifurcation of the upper current may take place at different latitudes, while the principal upper current may be displaced in longitude. The periodical alternations of drought and flood which are so remarkable in China would thus be explained.

For the abstract of observations and the subjoined remarks I am indebted to the Rev. Father DECHEVRENS, S.J., Superintendent of the Observatory at Sicawei. The instruments employed, and the conditions under which the observations are taken were briefly described in a previous report.\* Those who are unfamiliar with the scales adopted will find the following rules convenient for reduction. They are sufficiently correct for all practical purposes:—

#### RULES.

To reduce millimètres to inches, multiply by 3,937 and move the decimal point five places to the left.

To reduce degrees C. to degrees F., multiply by 9, divide by 5 and add 32.

To reduce mètres per second to miles per hour, multiply by 9 and divide by 4.

The winter that we have just passed through was more severe than any experienced in Shanghai since 1861-62. It almost realised the description of the cold season in Scythia during which "no herbs are seen on the plains or leaves on the trees, but the land far and wide is hidden beneath ridges of snow and ice; the rivers are ice-bound; hard icicles stiffen uncombed beards, and the whole firmament is thick with snow."† Much discomfort was caused by the rigorous

\* *Customs Medical Reports*, x. 53.

† . . . . . nec ullæ  
 Aut herbæ campo adparent aut arbore frondes;  
 Sed jacet aggeribus niveis informis et alto  
 Terra gelu late . . . .  
 Concresecunt subitæ currenti in flumine crustæ  
 . . . . .  
 Stiriaque inpexis induruit horrida barbis.  
 Interea toto non setius aere nunguit. *VIRG. Georg. iii. 352.*

weather, but it does not appear that the mortality returns were swollen by the severity of the season.

The following classified list of burials is condensed from the municipal lists and the sexton's books:—

BURIAL RETURN OF FOREIGNERS FOR THE HALF-YEAR ENDED 31ST MARCH 1878.

CAUSE OF DEATH.	OCTOBER.	NOVEMBER.	DECEMBER.	JANUARY.	FEBRUARY.	MARCH.	TOTAL.
Cerebral Apoplexy.....	1	—	—	—	—	—	1
Acute Mania.....	1	—	—	—	—	—	1
Epilepsy.....	1*	—	—	—	—	—	1
Paralysis.....	—	—	—	—	1	—	1
Congestion of Brain.....	—	—	—	—	—	1	1
Heart Disease.....	1* 1†	—	1* f1*	—	1	—	5
Aortic Disease.....	—	—	—	1	—	1	2
Aneurism of Aorta.....	—	—	—	—	—	1	1
Phthisis.....	1*	—	—	—	—	1	2
Pneumonia.....	—	1*	—	—	—	—	1
Chronic Bronchitis.....	—	—	—	1	—	—	1
Cholera.....	1 2*	‡1*	—	—	—	—	4
Typhus Fever.....	—	—	—	—	1*	1*	2
Enteric Fever.....	1*	—	—	—	—	—	1
Cirrhosis of Liver.....	—	—	—	—	1	—	1
Abscess of Liver.....	f1	—	1	—	—	—	2
Alcoholism (Uræmia).....	1	—	2	—	—	—	3
Puerperal Fever.....	—	—	—	—	f1	—	1
Abortion.....	f1	—	—	—	—	—	1
Malignant Ulceration of Bladder.....	—	—	—	1	—	—	1
"    "    Rectum.....	—	—	—	—	—	f1	1
Anæmia.....	1†	—	—	—	—	—	1
Exhaustion.....	§1*	—	—	—	—	—	1
"Purulent Catarrh".....	—	1	—	—	—	—	1
Traumatic Cerebritis.....	—	1*	—	—	—	—	1
Fracture of Base of Skull.....	—	1*	—	—	—	—	1
Fracture of Spinal Column.....	—	—	1*	—	—	—	1
Poisoned by Opium.....	—	—	—	1	—	—	1
Drowned.....	1*	—	—	—	—	—	1
Killed by Stabbing.....	—	—	—	—	—	1*	1
Uncertified.....	—	f1*	—	—	—	f2† 1	4
TOTAL.....	16	6	6	4	5	10	47

\* Not resident (19). † Infant under 1 year. ‡ 5th November, on board *Aleppo*. § Supposed to be due to abdominal cancer, but *postmortem* was refused. || On board *Anchises*, on the 29th March; see *North-China Daily News* of 1st April 1878.

By an error I stated in my last report (page 39) that the last case of cholera for the season occurred on the 30th October. From the certificates, I have since found that the last case was one on board the *Aleppo*, which proved fatal on the 5th November. The fatal case of heart disease in October noted as non-resident is that referred to in the note to my last report, page 40.

Abstraction made of non-residents (19) and infants under a year old (4) there remain 24 deaths among adult foreign residents during the winter half-year. Of these 20 were males and

4 were females, as against 16 males and 1 female during the same period of 1877. They may be thus arranged:—

TABLE OF CAUSES OF DEATH AMONG RESIDENT FOREIGN ADULTS OCT.-MAR. 1877-1878.

Cerebral Apoplexy . . . . . 1	Chronic Bronchitis . . . . . 1	Abortion . . . . . 1
Acute Mania . . . . . 1	Cholera . . . . . 1	Malignant Disease . . . . . 2
Paralysis . . . . . 1	Cirrhosis of Liver . . . . . 1	"Purulent Catarrh" . . . . . 1
Congestion of Brain . . . . . 1	Abscess of Liver . . . . . 2	Poisoning . . . . . 1
Cardiac and Aortic Diseases 4	Alcoholism . . . . . 3	Uncertified . . . . . 1
Phthisis . . . . . 1	Puerperal Fever . . . . . 1	

A comparison, as far as it can be carried out, of our vital statistics with those of India is instructive. The number of adult foreign males resident in Shanghai is not known, and therefore the percentage of mortality must remain doubtful. From the last issue (1876) of the invaluable series of sanitary reports annually presented to the Government of India, I gather that the ratio for 1876 of deaths to average strength in the English army in India was equal to 15.32 per thousand, and among officers 14.8 per thousand. Roughly speaking, I should think that either of these figures contrasts favourably with ours. On the other hand, while it is equally impossible to ascertain the number of foreign children in Shanghai, it is clear that the mortality among them is very trifling. In India the mortality among soldiers' children was for 1876, 55.88 per thousand, and that among children under one year old, 215 per thousand. The figures for the general foreign population are not given.\*

In the early part of 1877 the Shanghai General Hospital was removed from its former situation on the French Bund to new and much more suitable premises on the north bank of the Soochow Creek. The trustees in their annual report announce that the new building has given "every satisfaction, the sisters and the patients generally having expressed themselves in "terms of entire approval." The change has been in every respect an improvement. The wards are better ventilated than in the old building, and are capable of isolation from one another, the accommodation for first-class patients leaves now little to be desired; female wards have been added, and have already proved useful; an operating room and a strong room for cases of delirium tremens have been provided, and the sisters are more conveniently lodged. The detached small-pox wards are vastly superior to those in the old building which in summer were intolerably hot.

On the 1st January 1877 a lock hospital for the settlements north and south of the Yangking-pang was opened, and the medical examination of native prostitutes frequented by foreigners within these limits was announced as compulsory. This was a revival of an institution established on the voluntary system some seven years before, which had proved a failure through lack of funds and through the inveterate objections of the women concerned. The avowedly partial character of the plan then submitted to temporary and experimental trial condemned it in the eyes of some members of the community who held that any legislation on this matter

\* In England and Wales with a population of 22,000,000, the deaths from zymotic (epidemic, endemic, infectious and contagious) diseases reach over 111,000 per annum; *i.e.*,  $\frac{1}{2}$  per cent. of the population.

should be general in its application, and that therefore foreign prostitutes had no right to exemption from a sanitary control to be exerted over natives following the same trade. Other members of the community regarded with disfavour any attempt at medical supervision. From all these causes combined the scheme had to be for the time abandoned. Action appears to have been resumed mainly upon representations made by Vice-Admiral RYDER as to the dangers run by man-of-war's men when granted shore liberty at night, and the hardships endured by the crews of the flying squadron, who while detained on board their ships at Wusung missed the recreation to which, under government protection, they had become accustomed at Hongkong. I am inclined to think that the Admiral's pathetic complaints were rather highly coloured, and were drawn more from recollections or descriptions of Shanghai as it was fifteen or twenty years ago, than from the actual condition of things. From my own experience I may state positively that in this place enthetic diseases are neither remarkably prevalent nor remarkably severe, and Dr. HENDERSON so long ago as 1871 acknowledged in his report on prostitution the relative mildness and infrequency of this class of disease in Shanghai. I may further state that of the cases of disease which come under my notice a fair ratio arises in foreign houses.

For nearly six months very few, if any, women could be forced or induced to comply with the new regulation, but the closure of the unsubmissive houses on the plea of the disorderly character of their inmates at length tired a certain number out. At the end of the year "68 women distributed in 17 houses in the English settlement and Hongkew" were on the hospital books, and the inspecting surgeon considered that the women's prejudices as evidenced by their at first choosing to close their houses rather than submit to examination, were, if they ever existed, then satisfactorily overcome. It would be interesting to know the ratio of periodically examined women to the entire number (European, Japanese and Chinese) occupying houses to which foreigners can gain admittance without police interference, and also the ratio in which the total number of women has been increased by importations from Hongkong since the introduction of inspection. It would moreover be well to ascertain how many foreign sailors, exclusive of man-of-war's men, pass on an average yearly through the port. My impression is that of late Chinese have to a large extent taken the place of foreign sailors in almost every vessel on this coast. It is only after the publication of such figures that the amount of change effected in the feeling of the women, and the amount of good really done, can be satisfactorily estimated, or that the important question can be answered who they are that are to be benefited at the considerable cost involved. What immediately follows a measure of this kind is apt to be very deceptive if taken as indicating the permanent effects of the condition newly introduced. For instance, the temporary frightening away or seclusion of a number of diseased women may produce an equally temporary diminution in the spread of disease, or on the other hand the increase of clandestine prostitution may largely swell the sick lists of services in which the occurrence of disease is registered. In one case and the other arguments in favour of the system of inspection and against it, based on the immediate result, are ill founded. How small must be the influence as yet exerted is clear from the facts that no women are reported as having presented themselves from brothels on the French side, and that in 1871 the municipal health officer ascertained that the number of women in the English settlement and Hongkew occupying houses frequented by foreigners alone, and by foreigners and natives indiscriminately, amounted to 223. It is not probable

that the number of women has diminished within the last six years. It may therefore be assumed that there are in the settlements north of the Yangking-pang at least 150 Chinese women unexamined as against 68 examined. But, if the measure can be universally applied, if the foreign inspecting surgeons personally perform the task of examination and make themselves responsible for the healthiness of every woman passed, and if there be an efficient system of restraint for those found diseased (and upon all these points the public ought to be satisfied by official statements), enthetic affections of serious character will so far as foreigners are concerned be still further reduced in prevalence, and may perhaps eventually be stamped out altogether. Women frequented by natives alone are of course left out of consideration.

At the Gutzlaff Hospital during the year 1877, 1,984 native children were successfully vaccinated. A room in this building was formerly hired by the Municipal Council as their vaccinating station at a rent of \$ 150 per year. This rent, or rather grant, was withdrawn in 1876, and the vaccinating station was removed to the Shantung Road Hospital to which a considerable subsidy was accorded in consideration of the service to be performed. Since then a charge of \$0.05 per child has been levied at the Gutzlaff Hospital except in cases of evident poverty. About half the number vaccinated at the Gutzlaff Hospital are reported for the year at the new Municipal station (1,040) and 3,833 vaccinations are announced from the Taotai's establishment in the city. Nearly 7,000 native children in the city and suburbs were therefore vaccinated last year, a fact upon which the foreign community as well as the Chinese themselves may be congratulated. The account given in the next following report, by Dr. WONG, of the spread of vaccination in the south of China leaves us, however, still much to envy.

The question of the supply of pure water to the settlements has again been discussed. At the last meeting of ratepayers (12th March 1878) a purely negative resolution was adopted, expressing the disinclination of the public to undertake the establishment of works. Meanwhile the greater part of the water consumed in the settlements by both Chinese and foreigners is drawn from the river and creeks and, generally speaking, is subjected to no efficient purification. Most people believe that so long as water or air is inoffensive to the senses there can be no danger in consuming either. There could not be a greater mistake. The elements of danger in both are for the most part tasteless and inodorous, and in the case of water the more highly charged it is with certain septic products the brighter it is to the eye and the pleasanter to the palate. The water supplied by the two private companies established here is, however, reported by competent analysts to be unobjectionable in every way. At the same time it must be remembered that while chemical analysis tells when water is safe it cannot always tell when it is unsafe. So long as organic matter is absent there is no doubt, but, given the smallest quantity of such matter, it is impossible to say whether it is due to contamination with animal excreta or with decaying vegetable matter washed from a marshy plain, whether it contains the elements of disease or is thoroughly harmless. The only safety lies in filtering and boiling.

It will be observed that there was no death from enteric fever among residents during the half-year. The disease has, notwithstanding this, been constantly present, and indeed appears to have completely replaced the old "Shanghai (remittent) fever." The first case of small-pox for the season was admitted to Hospital on the 8th December. Three others were admitted on the 9th December, 3rd January and 8th February respectively. All terminated favourably.

The following cases present various points of interest:—

*Chinese Operative Midwifery.* \*—A woman, aged 33, in her third pregnancy, fell into labour on the morning of the 7th March 1878. Her previous labours, eight years ago and three years ago respectively, had been natural and speedy. Since the last she had become somewhat weak and had contracted a stoop which she attributed to overwork in paddy fields as, her husband being a good-for-nothing fellow, she had to support the entire family. She had not suffered particularly throughout this pregnancy. Pains continued through the first day and night, and became violent on the following day when towards evening two midwives were summoned. On the morning of the 9th, the waters having run off, while no progress was made, a third midwife was called who cut into the child's head, and endeavoured to extract with an iron hook. Failing in this attempt all three midwives ran away, and the woman seems to have been left to die. Four days later (13th March) at 4 P.M., labour having now lasted for six days and a half, the woman was brought by her husband to the Gutzlaff Hospital. She was then quite prostrate, with high fever, running pulse, dry tongue and muttering delirium, interrupted every now and then by a laugh. She was struggling from side to side and picking at the coverlit. The external parts were greatly swollen but not gangrenous. Each deeper movement of respiration and every motion of the body produced an audible escape of fetid gas from the vagina. The clothes were saturated with putrid discharges. All uterine action had ceased, and the bladder was distended. An ounce of brandy was beaten up with a raw egg and administered, urine to the amount of three pints or thereabouts was drawn off with a flexible male catheter, and an examination was made. The pelvis was occupied by a mass firmly moulded to it, the central portion presenting a cavity partly filled with a substance which broke down under the finger. The anterior boundary of the cavity was formed by a sharp ridge of bone, but the posterior border could not be made out. It was upon asking for an explanation of this that the story of the midwives just related, came out. The pelvis was roomy from side to side, but the antero-posterior diameter could not be ascertained. Towards the right side the shape of the cranium shewed that the head was engaged almost exactly in the transverse diameter. An attempt to get past the obstruction so as to turn having failed, the integuments were as carefully as possible doubled in over the bone and the remains of the head were with some difficulty extracted with the long forceps. But the problem of delivery seemed now nearly as far from solution as ever. The maternal structures were so much tumefied and the child's neck had stretched so much in consequence of the softening of the tissues that it was found impossible to reach an arm even after the extraction of the head. The head was therefore removed, and then the left arm which lay just above and a little to the left of the pubes was brought down. The necessary instruments having meanwhile arrived, and traction on the arm having failed to stir the trunk, SMELLIE'S scissors were guided behind the left clavicle into the chest, the contents of which were thoroughly broken up. The blades of BARNES'S cephalotribe were now with great difficulty insinuated diagonally across the thorax, and screwed home. The thorax being thus completely crushed and the diaphragm torn from its attachments there was a profuse discharge of fetid gas and fluid from the abdomen through the thorax, and the trunk of a male child was then easily extracted. The instrument had broken the spine at about the second or third dorsal vertebra, crushing in the ribs on it. The mother seemed insensible to pain, partly stupefied perhaps by the brandy she had taken. Ergot and half an ounce of brandy were then administered, and gentle pressure and friction applied to the uterus, which contracted well on the placenta. After waiting ten or fifteen minutes, during which the woman was carefully surrounded with hot bottles and fed assiduously with hot milk congee, the placenta was discovered to be adherent over about one third of its surface, and had to be peeled off. While introducing the hand into the uterus the promontory formed by the sacrum and last lumbar vertebra was found to reduce the antero-posterior diameter of the pelvis to  $3\frac{1}{2}$  inches. In other words, on presenting the transverse axis of my hand to the conjugate diameter of the brim I could pass my fingers between the promontory and the symphysis only when the index was folded in front

\* See *Customs Medical Reports*, iii, 82; xiv, 45.

of the medius. In order to reach the placenta it was therefore necessary to skirt the promontory on the left side. Immediately on removing the placenta the uterus contracted well. The passages were then washed out with a tepid stream of 5 % carbolic lotion, and the abdomen, vulva and legs rapidly sponged with a strong solution of the acid in hot water. The woman was stripped naked and removed to a clean hot bed, lightly bandaged, and carried into an empty ward the floor of which had meanwhile been profusely sprinkled with concentrated carbolic acid. Half a drachm of laudanum was given by the mouth, and she soon fell asleep. During the night she was fed frequently with milk congee. At 2 A.M. she had a severe rigor, but at 8 A.M. on the 14th her temperature was 100° F. From this out she took 3 grains of quinine every four hours until she became deaf, when the quantity was diminished. Though relieved by catheter every six hours the urine ran off (through the urethra) unconsciously during the intervals. The discharge was fetid but not profuse. On the 16th she passed urine once voluntarily, but in anticipation of a probable vesico-vaginal fistula the use of the catheter was continued. From this till the 22nd there was neither fever nor abdominal tenderness, but on the 20th there was a sudden and considerable discharge of purulent fluid from the vagina, not fetid. This continued for two days, but it was not easy to tell where it came from. The quantity was increased by even slight pressure on the abdomen immediately above the pubes. An injection of a 2 % solution of carbolic acid was used twice daily. On the 22nd in spite of the continued administration of quinine, there was sharp fever (103°) with dry tongue and flushed cheeks, but deep pressure over the uterus produced no pain. A puffy pink spot was found over the right femoral ring, and the left ischio-rectal region seemed brawny. A purgative with hot fomentations locally gave temporary relief, and on the 23rd an abscess by the side of the vagina was aspirated through the left labium, about two ounces of indescribably fetid broken-down blood and pus escaping. On the 26th another large collection was aspirated at a lower point of the same labium, after which convalescence proceeded without interruption, the catheter being abandoned on the 5th April, and the patient discharged on the 12th.

On examining the child's head, it was found that the left parietal and frontal bones had been broken away over an irregular space extending from immediately behind the protuberance, one inch and a half upwards, and about two inches forwards, leaving the sagittal suture intact, and but slightly disturbing the anterior fontanelle, but breaking across the coronal suture. The mechanism of the result of the Chinese operation is easily followed. The head having entered the brim in the second position, with the left parietal protuberance lowest, was arrested there for some time by the sacral prominence. After a certain delay the head gradually became moulded, and was partly rotated into the sacral cavity, causing a larger surface than usual of the parietal bone to present. Up to the time of the operation there could have been no attempt at flexion of the head, else the frontal bone would probably have escaped. This shews how high the head was when it was opened, and proves the temerity of the Chinese midwives, who could not have known that in consequence of the conjugate shortening the chances were against the child being born without interference. Once the brain was evacuated or partly evacuated the head was driven almost directly along the axis of the pelvis with little or no attempt at rotation. Meanwhile the shoulders, whose relations to the pelvis would have been unaltered by what had happened to the head, and the persistence of whose diameters in consequence of the integrity of their framework would render them prone to follow the natural spiral course, came to be engaged in the brim. The right, probably in consequence of softening of the muscular structures after death and in spite of the sacral projection, revolved partly into the hollow of the sacrum where it was fixed by the continuous though gradually weakening uterine action. The softened tissues of both child and mother were thus moulded to one another, and

the fixation was completed by the inflation of the child's thorax and abdomen with gases, the products of decomposition.

This case must speedily have ended fatally, but for the lucky chance by which it was possible to coax the blades of the cephalotribe into their position. The woman could by no possibility have long borne a piecemeal digging out of the putrid mass which lay jammed in the pelvis. Here again, as in the case reported in the last issue of this series, the speedy and permanent contraction of the womb under the most adverse circumstances of exhaustion and blood poisoning is worthy of notice. Had foreign assistance been sought at an early stage the child might easily have been saved by turning, or even perhaps by the forceps.

*Caries of the Scapula.*—The following case though dating from long ago is now published for the purpose of drawing attention to the readiness with which in Chinese patients caries spreads over large surfaces of bone, and the apparent inability of the still living tissue to throw up a barrier against its advance. I have seldom, if ever, seen a case of genuine necrosis in a Chinese patient, a sequestrum turning cleanly out of a healthily granulating capsule.

CHWANG, aged 26, a native of Ningpo, was admitted to the Hongkew Hospital under my care on the 9th June 1870. He could not lift his right arm from his side, and two sinuses, one situated on the inner edge of the deltoid, 2 in. above its insertion, the other at its insertion, were freely discharging thin, sanious pus. Following the higher one with a long flexible probe, disease of the scapula was made out, but the humerus could not be touched. The patient stated that he had sustained no injury, but that 7 months before, he began to suffer pain in and round the shoulder joint. A foreign surgeon had drawn a seton across the front of the joint which, however, gave no relief.

On the 12th June an incision was made down to the bone along the entire length of the spine of the scapula which with the exception of the acromion process at once broke away. An incision at right angles to the first and extending from an inch above its centre to the inferior angle of the bone laid bare, on reflecting the flaps, the entire extent of the disease. The finger insinuated under the edge of the bone all round from the suprascapular notch to the origin of the long head of the triceps swept it clear from the soft parts, the attachments of the muscles having quite disappeared. Attempts to lift the bone bodily succeeded only in breaking bits out of it, and accordingly it had to be removed piece by piece, the glenoid cavity and acromion and coracoid processes excepted. They had luckily escaped or resisted the spread of the disease. When all the fragments were removed I found myself on the serratus magnus, the entire of the subscapularis having disappeared, and the former muscle having contracted new attachments.

The wound healed by first intention, with the exception of one spot about the middle of the perpendicular incision. This remained open until the end of July when a small fragment of bone was detected and extracted. A week later the patient was discharged perfectly well, and three months later though unable of course to lift his arm directly outwards he was able to fill, carry and empty buckets, and had obtained employment as water coolie in a tea house.

*Small-pox.*—Of all diseases small-pox would seem to be that one which should be most easily diagnosed. That mistakes are possible appears from the following case: On the 8th February I was summoned on board the *Kwa-sing*, which was preparing to go to sea next day, to visit one of the officers who was complaining of ague. Up to the 6th he had been well. On that day he felt ill during the forenoon, and in the afternoon had a short shivering fit during which he went to bed. Sweating, with considerable relief, followed, and he took some quinine. Next day he felt quite well, but had little appetite. On the third day the phenomena of the day but one before were repeated. At my visit (4 P.M.) he was perspiring freely; temperature 100°; no

pain anywhere, but a general sense of malaise. The question was whether the patient should be allowed to go to sea. Clearly if he were suffering from intermittent fever as he himself believed, and as I was inclined to believe, the wisest thing he could do was to accompany the ship. However, he somehow looked as if there might be something more wrong with him than a mere passing attack of ague, and accordingly I kept him back. On the morning of the following day (9th February, 72 hours from the first feeling of illness) he had a temperature of 105°. Suspecting an eruptive fever, and thinking most of typhoid, I examined his skin carefully, so that no eruption could have escaped me. In the afternoon, however, a crop of papules appeared on the forehead, and the disease followed a somewhat severe course, with high fever and violent delirium, but terminated favourably. The eruption was in this case postponed for at least 80 hours after the first manifestation of fever. Moreover, if from noon on the 9th February the orthodox 48 hours are counted backwards we come to noon of the 7th when the primary fever ought to have been beginning, but when in fact the patient was feeling quite well, having, he thought, driven out by quinine the ague fit of the previous day. This patient had been revaccinated without result three years previously on board an English man-of-war.

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B.—Dr. WONG'S Report on the Health of Canton for the Half-year ended  
31st March 1878.

I AM indebted to Mr. PARKHILL, Harbour Master, for the following Abstract of Meteorological Observations taken at his office:—

1877-78.	WINDS.							WEATHER.			BAROMETER.				THERMOMETER.				TIDES.		
	No. of days N. to E.	No. of days E. to S.	No. of days S. to W.	No. of days W. to N.	No. of days Variable.	No. of days Calm.	Average force of Wind.	No. of days Foggy.	No. of days Rainy.	Rainfall in inches.	Day.	Night.	Day.	Night.	Day.	Night.	Day.	Night.	Day.	Night.	
October ...	18	7	...	2	4	...	5	4	1	1	3	30 <sup>37</sup> 30 <sup>18</sup> 30 <sup>18</sup>	29 <sup>95</sup> 30 <sup>08</sup>	30 <sup>35</sup> 30 <sup>12</sup> 30 <sup>12</sup>	29 <sup>95</sup> 30 <sup>09</sup>	88° 82°	62° 74°	82° 76°	60° 72°	9 5 4 0	9 2 5 0
November	19	4	3	2	2	...	5.3	8	0	3	0	30 <sup>32</sup> 30 <sup>19</sup> 30 <sup>19</sup>	29 <sup>98</sup> 30 <sup>12</sup>	30 <sup>29</sup> 30 <sup>15</sup> 30 <sup>15</sup>	30 <sup>00</sup> 30 <sup>13</sup>	86° 76°	56° 69°	81° 71°	56° 67°	9 2 4 2	9 9 5 0
December	20	7	1	1	2	...	6.5	15	7	1	9	30 <sup>40</sup> 30 <sup>17</sup> 30 <sup>17</sup>	29 <sup>86</sup> 30 <sup>09</sup>	30 <sup>38</sup> 30 <sup>13</sup> 30 <sup>13</sup>	29 <sup>88</sup> 30 <sup>11</sup>	81° 67°	47° 61°	76° 63°	46° 59°	9 0 4 0	9 9 5 3
January ...	25	4	...	1	1	...	8.2	11	7	0	6	30 <sup>49</sup> 30 <sup>25</sup> 30 <sup>25</sup>	29 <sup>84</sup> 30 <sup>17</sup>	30 <sup>42</sup> 30 <sup>22</sup> 30 <sup>22</sup>	29 <sup>88</sup> 30 <sup>19</sup>	74° 56°	38° 48°	70° 51°	38° 46°	8 7 4 7	9 0 4 11
February..	25	...	...	1	2	...	6	21	5	3	3	30 <sup>44</sup> 30 <sup>22</sup> 30 <sup>22</sup>	29 <sup>85</sup> 30 <sup>14</sup>	30 <sup>48</sup> 30 <sup>21</sup> 30 <sup>15</sup>	29 <sup>81</sup> 30 <sup>15</sup>	68° 57°	43° 51°	65° 54°	43° 49°	8 3 4 4	9 0 4 9
March .....	13	1	...	...	4	...	4.3	22	...	13	3	30 <sup>36</sup> 30 <sup>19</sup> 30 <sup>19</sup>	29 <sup>93</sup> 30 <sup>13</sup>	30 <sup>30</sup> 30 <sup>16</sup> 30 <sup>16</sup>	29 <sup>92</sup> 30 <sup>13</sup>	81° 68°	53° 62°	77° 64°	53° 61°	9 1 4 8	9 6 4 9

1877-8	AVERAGE MAX.	AVERAGE MIN.	DIFFERENCE.	MEAN.
October . . . . .	82°	72°	10°	77°0'
November . . . . .	76°	67°	9°	71°5'
December . . . . .	67°	59°	8°	63°0'
January . . . . .	56°	46°	10°	50°2'
February . . . . .	57°	49°	8°	53°0'
March . . . . .	68°	61°	7°	64°0'

The coldest month was January. The lowest temperature (38°) occurred on 19th and 20th of that month.

Rain fell on

4 days in October,	inches 1·3	against 1876,	6 days,	inches 1·0
8 " " November,	" 0·3	" " "	" "	...
15 " " December,	" 1·9	" " 3 "	" "	1·2
11 " " January,	" 0·6	" 1877, 3 "	" "	1·6
21 " " February,	" 3·3	" " 12 "	" "	1·3
22 " " March,	" 13·3	" " 24 "	" "	2·0
<hr/> Total, 81	<hr/> 20·7 inches.	<hr/> 48 . "	<hr/> 7·1 inches.	

The large quantity of rain in March, as shewn by the above table, was chiefly due to the heavy rains during the last 4 days of the month, amounting to 8·8 inches. Between midnight and the morning of the 27th of that month we experienced a great thunderstorm, accompanied by lightning and heavy rain, during which there fell in 6 hours more than 6 inches of rain, the greatest rainfall for a single day since 1873. It is reported that a few lives were lost in Whampo and here during the storm.

The winters in Canton are generally very fine, and are looked forward to with pleasure by the foreign residents as a most agreeable change after the long and trying summers. This winter however was quite an exception. Instead of the fine weather we usually have from September to January, there was nothing but rain (for the most part drizzling or mist) from the latter part of November to the end of March, with only few and short fine intervals. So extraordinary did the weather appear with its misty rain, fogs, and cloudy atmosphere, in the depth of winter, that it was a common saying among the Chinese that winter was acting the part of spring; and an old resident of 30 years in Canton declared that he had never before seen so much rain in the middle of December, though he had seen summer clothes worn in that month. In October and November the weather was comparatively warm; and even in December the temperature for the first two weeks was unusually high, the thermometer for many days standing at 80°, with a south wind blowing. After this the cold weather set in steadily, and in January it was severely cold throughout the whole month, the thermometer standing often at 39° in the morning and gradually rising to 46° or 50° in the course of the day. The cold was intensified by the presence of rain, and many beggars in the city are said to have perished during this period from the severity of the weather. Throughout February the weather was still very cold but not so severe.

The general health of the foreign community was fairly good. Fevers were prevalent. The most common complaints were diarrhœa and catarrhal affections, including sore throats and coughs. Among the diseases that came under treatment, I may mention a few cases of dysentery and chronic diarrhœa, a case of ulcerative stomatitis in an adult, a case of whooping-cough, two cases of pneumonia, and two other cases that excited general interest, viz., a severe fall which happened to a Custom House officer, and a birth of twins. Though fevers here are mostly intermittent, I have this winter met with some of the continued type. In one the patient was a girl of 7 years old, who experienced throughout the course of the disease a continued sensation of cold and shivering, so that she wished always to be near the fire. The fever lasted three weeks, was unaccompanied by diarrhœa, and unaffected by quinine.

One family was attacked with whooping-cough, the mother, a baby of 8 months old, and two children of the ages of 6 and 7. After three months they got well. The true nature of the disease was not suspected at first, as the whoop was absent in the baby who was first attacked, and though four of the family suffered, it was only occasionally heard in the two elder children. The baby was treated with tincture of belladonna, and the two elder children with chloral hydrate. The belladonna appeared to have a marked effect on the child, as when it was given it stopped or modified the spasmodic cough, which invariably returned when it was withheld. The chloral allayed the spasms and gave sleep to the children at night. Though the medicines afforded great relief I do not think they had any influence in cutting short the disease. Indeed I am convinced by what I have seen, that though the disease will run its course irrespective of treatment, yet antispasmodics are highly useful and necessary; for it appears to me that but for the belladonna the baby would have been in considerable danger. No other children were affected.

*Birth of Twins.*—It was a forceps case; the first child was a boy, and the second a girl, not very alike in appearance. The pair weighed on the 8th day 12 lb. 6 oz. In Dr. TANNER'S work on the diseases of infancy and childhood, it is stated that "Dr. CLARK found that the average weight of 12 twins was 11 lb. avoirdupois each pair, the heaviest being 13 lb. and the lightest 8½ lb." This being the case, the twins above mentioned would have the average weight, 11 lb., at their birth. They were nearly of the usual size of children born singly, and are at present quite strong. I have again in this case observed the good effect of the perchloride of iron in arresting postpartum hæmorrhage. Owing to the presence of two placenta and the inertia of the uterus from protracted labour, the hæmorrhage was very alarming. I dissolved 2½ oz. of the tincture in 18 oz. water and injected two-thirds of the mixture, using a stomach pump. The hæmorrhage stopped at once and only returned after some hours, and that in small quantity. No bad effects followed, and I can say in this case, there was not the least sign of fever, metritis, or phlebitis, and that the patient made a good recovery. In my obstetric practice of this winter I had also a case of prolapsed funis, an event which happens about once in 232 cases in British practice. It was an ordinary head presentation; the cord was unusually long, and the child was very small, owing to long illness of the mother before her confinement. On account of the rapidity of the labour I did not attempt to return the cord. The child was born in a state of complete asphyxia, and it was about 10 minutes before respiration was established. The small size of the child was doubtless the cause of this complication.

There have been among foreign residents 3 births,—3 boys and 1 girl, and 1 death. A child of 15 months died of dysentery from dentition. The child was in a moribund condition when I saw it.

The general health of the Chinese population was good, diseases of a severe and dangerous character not having been common this winter. The chief complaints during the cold months were catarrh, bronchitis, rheumatism, and fevers. In October, owing to the unseasonable warmth and the changeableness of the weather, there was a great prevalence among the Chinese of catarrhal affections, which also attacked many of the foreign residents. Intermittent fevers, which in some other ports are supposed to be little seen in the dry cold weather, were quite common, especially in November and December. With the approach of cold, dysentery and diarrhoea gradually disappeared.

There was no epidemic of small-pox or measles. The Cantonese, at the present day, have a high appreciation of vaccination, the practice of which has doubtless been the cause of the less frequent appearance of epidemics of small-pox in late years. Vaccination appears to have been first introduced into this city in 1805, not long after its discovery by JENNER, and 18 years before his death. The following letter of Sir John BARROW to JENNER which I found in a little tract called "Results of Vaccination" will be read with interest, as showing the early date when the Cantonese were first made acquainted with this great discovery:—

3, Charlotte Street, St. James's Square,  
9th June 1806.

SIR,

I have great pleasure in being able to inclose, for your inspection, a short treatise in the Chinese language on the vaccine inoculation, translated by my friend Sir George STAUNTON, and published by the Chinese in the city of Canton. The curiosity of an English work issuing from the Chinese press, however extraordinary, gives way to the more extraordinary facility with which this people (always strenuous in opposing every innovation) has submitted to receive the new practice of vaccination. Not only the surgeon of the English factory, but numbers of the Chinese were constantly employed in communicating the disease, from the moment it was perceived with what ease and convenience the patient went through it; and they had actually raised a very considerable subscription for the purpose of establishing a vaccine institution, for promoting the practice in every part of this extensive empire. Thus the English at length as well as the other Europeans have established their claim (which though last is not least) on the gratitude of the Chinese. As the small-pox in China has usually been attended with the most fatal effects, there is little doubt that the same willingness, which has manifested itself at Canton, to receive so mild and effectual a substitute, will be felt in every province of this populous country; and the more so as public confidence there is not likely to be shaken by that kind of illiberal and undignified opposition which has been so industriously employed elsewhere. By every real friend of humanity, and by you, Sir, in particular, this intelligence must be received with sensations of peculiar satisfaction.

I have the honour to be,

SIR,

Your most humble servant,

JOHN BARROW.

To Dr. Alexander PEARSON of the E.I. Company is due the great credit of first establishing, by a long course of labour extending from 1805 to 1820, the practice of vaccination among the natives of Canton. But although this practice was introduced so early, and has been kept up more or less among the population ever since, it appears that the people have been rather

careless to avail themselves of it; and it is only of late, perhaps within the last 15 years, that it has obtained extension to all classes and conditions of men, from the highest to the lowest, whether living on land or on water, so that at present it may be estimated that, at least 95 per cent. of the children of the city receive the benefits of vaccination. The general age at which children are vaccinated is about the second year, and the earliest about the fourth or fifth month. There are in the city many men engaged in the practice, some of whom receive pay from benevolent individuals to open dispensaries for free attendance on the poor on stated days. In the country vaccination has also made great progress in the confidence of the people, and professional men are found in villages, either practising on their own account, or hired by the gentry for the purpose. The two most noted vaccinators of the city are YAUHEE and TAN YIHSING. The grandfather of the former was instructed in the art by Dr. PEARSON in 1806, and carried it on with such success and became so widely known, that his family receives marks of recognition from the Government in the shape of some official title, and also I believe a grant of *Ts*. 100 per annum for the preservation of lymph. TAN YIHSING has also a large practice, some say on account of the confidence placed in him as one skilful in the diagnosis of leprosy, and likely to be circumspect in the selection of lymph. It was always the custom to vaccinate direct from the arm, but of late years many Chinese, including the individuals above mentioned, have been taught by Dr. KERR to preserve lymph in glass tubes. Chinese mothers strongly object to have lymph taken from their children, under the idea that it weakens their constitution, and would not part with it but for money, so that vaccinators have to secure their supply of lymph by paying children successfully vaccinated to come to their houses. When a doctor is called to a family to perform vaccination he takes a child with him to furnish the vaccine, for which he generally gets 50 cents or \$1 as a fee, and the child 25 cents for the lymph. Poor people may be vaccinated for 10 or 25 cents.

A severe accident happened to a Customs officer at Whampoa on the night of the 11th October last. He fell from the verandah of his house, a height of 23 feet. He was alone when he fell, and when found was quite delirious, and a good deal of blood was observed on the chunam walk on which he fell. I saw him about eight hours after the accident, and found him delirious but in great pain, with some blood on his pillow that seemed to have trickled from his right ear. The urine he passed was of a bloody colour, as if some internal organs had been ruptured; no limbs were fractured, but his right foot was badly sprained. There was no wound on the scalp, and of course no fissure of the cranium could be detected. His chest seemed to have sustained a severe bruise, as the ribs on the right side protruded somewhat prominently on the back. The precise nature and extent of other injuries could not then be ascertained, owing to the impossibility of getting any reliable information. In his fall he appeared to have first alighted on his feet, then on his breech, and then on his side or head. The pupils were normal, and no paralysis was observed then or afterwards. Two days after the accident he was removed to Canton. It was thought that the escape of blood from the ear indicated fracture of the base of the skull. His head was at once shaved, and ice was kept on it for a long time. He was purged, and afterwards was given small doses of calomel and antimony. In two days the urine got quite clear. For more than a month he had fever. During the first four days the fever was not high. In the morning he was a little sensible and able to recognize his wife

and one or two of his friends; but as night approached he became noisy and delirious. On the fourth day his head was blistered; on the seventh day the fever ran high, and he was wildly delirious. The cold douche was now applied to his head. On the twelfth day after the accident the fever abated somewhat, his tongue showed signs of cleaning, and for the first time after the accident he could be turned on his side and washed. Still he was not rational. From this time he got gradually quieter and had less fever. His temperature for a long time was about  $101^{\circ}$  in the morning and  $101.5^{\circ}$  or  $102^{\circ}$  in the evening. He became by degrees more sensible, and on the 16th of November, 35 days after his fall, he was marked in my note-book as "quite rational and able to sit up." But so slow was his improvement that for a long time there was very little hope of his recovering his reason. His fever continued some time longer, and did not leave him till the end of the year. For a long time his brain was weak and irritable, so that sitting up for more than an hour or two would cause fatigue and giddiness, and even many months after the accident sitting long near a fire would affect his head. When he became somewhat rational and could be examined it was discovered that he could not lift his thigh or flex it on his body, as any such motion caused great pain. There seems to have been a severe sprain in and about the hip joint, with inflammation and its results. The leg is not shortened or dislocated, though it lies a little inverted. In January he was able to walk about a little in the house with crutches, and I was in hope that he would in time regain sufficient power to walk without them; but his improvement was interrupted by a severe attack of pneumonia in that month, which laid him up for three weeks, and threw him back considerably. Finding that any attempt to flex the thigh, or to rotate it inward, brings on great pain, I have lately examined him under chloroform. I find that I can then flex the thigh on the body to a considerable extent. It is now nearly six months since the accident. He has been quite rational for a long time, and his head is getting much stronger. He is able to walk about with crutches, but has not, as yet, been out of his house. There is no prospect of his ever being able to recover completely the use of his leg, though he may in time regain sufficient power to walk without assistance.

This is an interesting case in some respects:—

1st, his recovery with life after such a severe fall;

2nd, his recovery of his reason after more than a month's derangement;

3rd, our inability to account for the cause of the blood that issued from his ear.\* The large quantity of blood that came from his ear seemed to indicate fracture of the base of the skull with laceration of the dura mater and of the tympanum. There might have been undiscovered fracture of the skull, but on examining the tympanum no rupture of the membrane was seen. Besides, the patient's hearing was good from the first, and there was also no paralysis of any part of the face. There were symptoms of subacute inflammation of the brain but not of compression.

\* Bleeding from the ear, while in such cases it always suggests fracture of the petrous portion, may result, even when profuse, from rupture of the lining membrane of the external ear or of the tympanic membrane with or without rupture of the mucous membrane of the middle ear. Again, from the close relation of the mastoid cells in front with the external ear, and internally with the lateral sinus, a fracture of this process by a blow or fall may cause profuse hæmorrhage of serious though by no means of necessarily fatal import.

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C.—Dr. BRERETON'S Report on the Health of Chefoo for the Half-year ended 31st March 1878.

DURING the past winter Chefoo presented very unusual appearances, as at different periods the harbour was completely ice-bound. The floes extended for miles in an almost unbroken mass, and were so thick within the harbour that the Chinese were able in smooth weather to drag heavy sampans for a considerable distance over them. But as soon as a breeze arose from the north or east large masses were driven from seaward, crushing the thinner ice and filling the harbour with huge blocks, which completely prevented communication with the ships. January and February were our coldest months. During the former the thermometer stood below 20° on nineteen days, but there being an absence of much wind, the cold was not felt very severely.

For the following table I am indebted to the Harbour Master, Mr. HOWARD :—

DATE.	THERMOMETER.			No. of days Rain.	No. of days Snow.	Fogs.
	Max.	Min.	Average.			
1877, October.....	77	40	59	4	...	...
„ November.....	64	28	46	3	1	...
„ December.....	66	20	43	1	2	...
1878, January.....	51	12	32	...	4	...
„ February.....	54	14	34	...	1	...
„ March.....	74	29	52	...	...	...

The health of the foreign community was in general good. There was a complete absence of epidemic diseases, yet serious cases were not infrequent, and four deaths occurred :—

- 1°, A Malay seaman, from the effects of severe frost-bite of both feet which he received while in Newchwang ;
- 2°, A child, aged 8 months, from convulsions during dentition ;
- 3°, An adult who had been suffering from puerperal mania ;
- 4°, An infant, aged about 4 months, from acute hydrocephalus.

The following case of acute meningitis seems to illustrate the value of mercury in this disease, and the need for promptitude and decision in its exhibition at the very outset :—

A strong, robust male child, aged 3½ months, weighing 15 pounds, without any hereditary taint, had previously suffered for about six weeks from occasional attacks of otorrhœa, both ears being affected. The discharge was thin, green, sometimes yellow, and always offensive. Cleansing and astringents generally produced a temporary cessation of the discharge. On the first day the little patient was very cross and

irritable, crying frequently, and constantly rolling his head about; towards evening his skin became very hot and dry, he vomited his food, and had two or three dark, liquid, offensive motions. When visited late in the evening, the anterior fontanelle was prominent, pulse quick and wiry; vomiting and purging had been frequent. One grain of grey powder every 6 hours, and a mixture containing bismuth were ordered.

2nd day, 6 A.M.—Had no sleep during the night, almost constantly crying, and occasionally screaming. Vomiting was constant, so that the medicine had not been retained; pupils somewhat contracted, no notice taken of anything; purged four times, the motions being of the same character as previous evening. Ten grains of mercurial ointment were ordered to be rubbed into each axilla and groin every three hours. At 1 P.M. the cephalic scream was well marked; vomiting and purging were constant, fontanelle rather depressed. Mercurial ointment was now rubbed all over the body every hour. Up to 11 P.M. there was no change of any kind except increased weakness. Cold applications to the head had meanwhile been ordered.

3rd day, 6 A.M.—Had been quieter during the night, and had slept at intervals; occasional vomiting and purging; fontanelle depressed. Ordered ten drops of brandy every hour, and the ointment to be continued. By 9 A.M. the vomiting had ceased, one green motion had been passed, and an hour's sleep had been obtained; cephalic scream quite gone; takes about three ounces of milk in two hours; brandy as before; ointment to be rubbed in every four hours. Before 1 P.M. the child had slept for about two hours at a time, and on awaking had taken nearly six ounces of milk. The treatment was discontinued and a quinine mixture was ordered. At 5 P.M. milk was not taken quite so well, the child taking the teat, but seeming to have lost the power of suction. It had slept well at intervals, and two green motions had been passed. As the bottle was refused, spoon feeding was adopted at 9 P.M.; but at 11 P.M. I was suddenly called, the parents considering that death was imminent, as no attempt at swallowing could be induced. When a spoonful of milk was poured into the mouth, it entered the larynx and threatened suffocation. The limbs seemed powerless, being left in whatever position they were placed. Pupils dilated, respiration natural. I at once administered an enema of 15 drops of brandy with some of the quinine mixture, and directed enemata of milk with brandy to be given every hour.

On the 4th day at 6 A.M. I learned that since the last visit the infant had slept at intervals, and at 4 o'clock A.M. had begun to take food. Two solid natural motions.

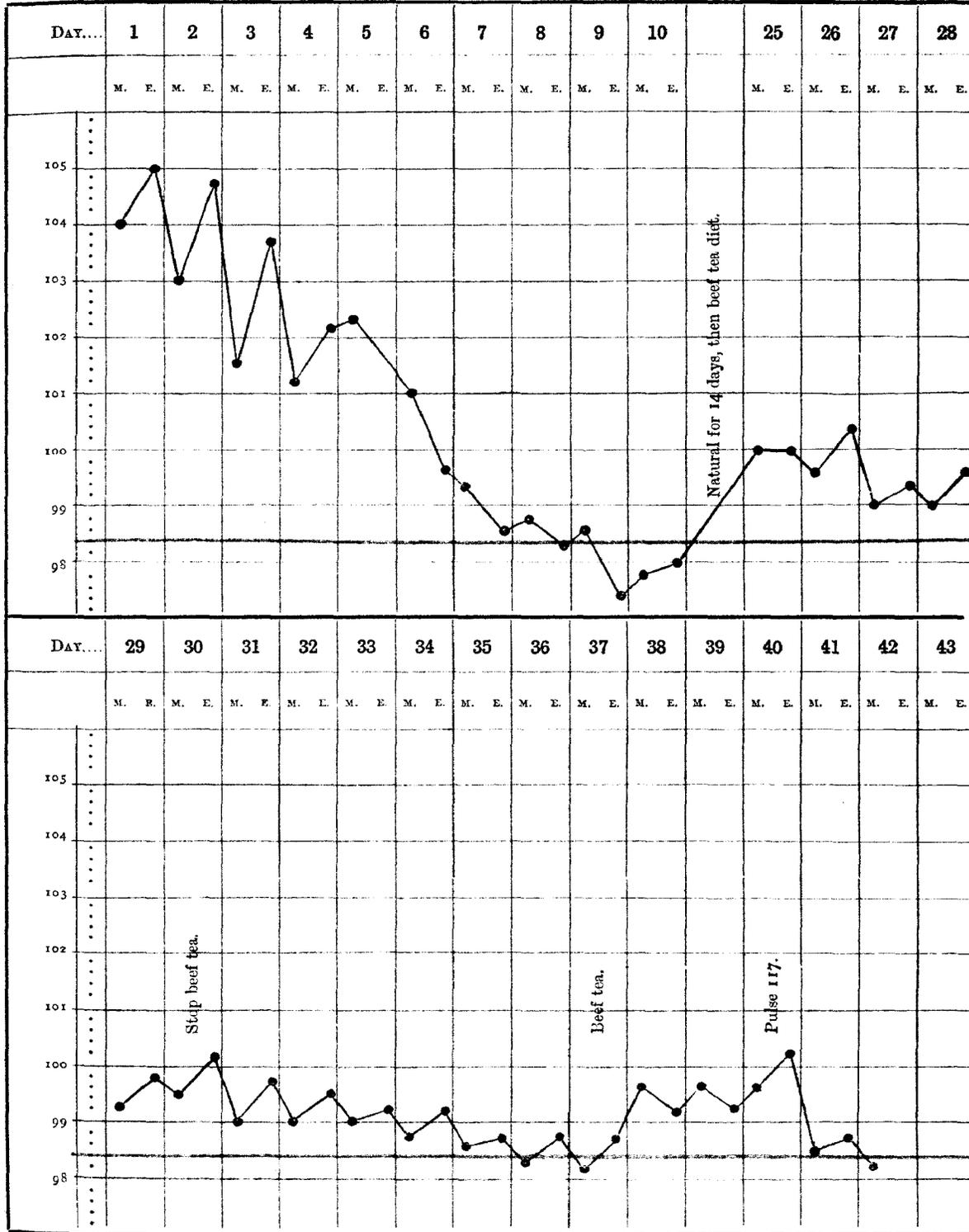
From this time the child made a rapid recovery, but although he has since considerably increased in size and vigour, yet his mental faculties seem somewhat dulled. He is at present however in perfect health.

During the winter two cases of fracture of the leg were treated. In one, tibia and fibula were broken, in the other the tibia alone. Both did well, the patients being able to walk with the aid of crutches in about six weeks.

Last month a case of opium poisoning occurred in which the quantity of opium taken slightly exceeded 20 grains. The patient, a Chinaman, when seen nine hours afterwards was found deeply comatose. Cold affusions to the head and chest having failed to rouse him, a third of a grain of atropia was injected hypodermically, which was also unsuccessful. He died shortly afterwards.

One imported case of enteric fever was treated in the early part of the winter. The patient was a well-made seaman, who previous to his arrival here had been treated for diarrhoea by the captain of his ship, who administered almost daily doses of castor oil. He was at once admitted into hospital and put upon milk diet, which I have no doubt mainly contributed to his recovery, for, as will be seen by the accompanying chart, whenever beef-tea was given the temperature rose and continued increasing until the substitution of milk. Simultaneously with the rise in temperature there was an increase in the diarrhoea.

TEMPERATURE CHART OF A CASE OF ENTERIC FEVER.



Several cases of bronchitis occurred during the latter part of the winter, the patients being young children. In most instances great benefit was derived from a mixture containing carbonate of ammonia and liq. ammon. acet.

Other cases of disease to which I have not alluded were merely examples of ordinary affections independent of climatic conditions, and in no single instance could an affection be attributed to an unfavorable climate, notwithstanding the great amount of cold we have undergone.

It is to be regretted, however, that sanitary affairs are so entirely ignored by most of the householders here. I have little hesitation in saying that did such matters receive the attention they deserve, it would not only greatly conduce to the additional comfort of the community, but would give Chefoo a most enviable position as a health resort, the benefit of which so many have already experienced.

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*D.—Dr. J. H. MACKENZIE'S Report on the Health of Ningpo for the Half-year  
ended 31st March 1878.*

DURING the past six months, as far as the foreign community is concerned, there has been very little to complain of as regards ill health.

In October and November 1877, several cases of diarrhœa and an unusual number of dyspeptic cases came under my notice, but none of them were of a very severe type. Several slight attacks of rheumatism occurred, and I found that in every instance salicylate of soda administered in 10 gr. doses every three hours gave speedy relief.

During winter bronchitis attacked several, but only two cases were at all severe, and all made good recoveries.

Gonorrhœa has been more prevalent than usual, owing perhaps to the unusually frequent visits of war-vessels of various nationalities. No cases of syphilis came under my notice.

In my last report I noticed the fact that cholera had not visited Ningpo during the six months reported on, but during October and November several cases occurred among Chinese, and I heard of six well authenticated deaths from this cause, four in the city of Ningpo and two within the bounds of the foreign settlement. Fortunately our sanitary arrangements, although far from perfect, are better than they were some years ago, which combined with the setting in of the cold weather, prevented its spread in anything like an epidemic form. I was unable to satisfy myself whether it had been imported or was endemic.

The past winter has been one of the longest and most severe experienced by the oldest foreign residents in Ningpo. Snow remained for a great number of consecutive days on the ground, and all canals and ponds were frozen over. There are so few foreign residents here that I do not think I am justified, in a report of this nature, in giving a detailed list of all cases coming under my notice. Were I fortunate enough to have charge of a Chinese hospital it would then be an easy matter to make out a full table of diseases.

As the thermometers in possession of the Customs here are non-registering and are noted only every four hours by some one on duty at the Custom House they cannot be entirely depended on for accuracy. Mr. WHEATLEY has kindly allowed me to look over his markings, and I see that the lowest temperature noted was 18° F. at 4 A.M. on the 8th of January. On the 9th at the same hour it was 19° F. The greatest heat in the shade that month was 66° F. at 4 P.M. on the 26th.

*E.*—Dr. E. I. Scott's Report on the Health of Swatow for the Half-year ended 31st March 1878.

TABLE OF DISEASES AMONG FOREIGNERS.

*A.*—ZYMOTIC DISEASES.

1. *Miasmatic Diseases* :—

	Cases.
Diarrhœa . . . . .	8 5*
Dysentery . . . . .	1
Ulcerated Tonsils . . . . .	6
Cholera . . . . .	1
Cholera Biliosa . . . . .	2
Fever, Remittent . . . . .	3
" Intermittent . . . . .	6 5*
Mumps . . . . .	1*
Influenza . . . . .	4 2*
Boils . . . . .	1*
Ophthalmia . . . . .	1 1*

2. *Enthetic Diseases* :—

Gonorrhœa . . . . .	1 11*
Syphilis . . . . .	1 9*
Hard Chancre . . . . .	3*
Bubo . . . . .	1 1*
Stricture of Urethra . . . . .	2*

3. *Dietic Diseases* :—

Intemperance . . . . .	1 1*
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4. *Parasitic Diseases* :—

Tape Worm . . . . .	2*
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*B.*—CONSTITUTIONAL DISEASES.

1. *Diathetic Diseases* :—

Rheumatism, (General) . . . . .	2 1*
Gout . . . . .	1

2. *Tubercular Diseases* :—

Phthisis . . . . .	1*
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*C.*—LOCAL DISEASES.

1. *Diseases of the Nervous System* :—

Inflammation of Brain . . . . .	1*
Neuralgia of Head and Face . . . . .	5 2*
Hysteria . . . . .	2*
Neuralgia of Stomach . . . . .	1*
Sciatica . . . . .	1*

2. *Diseases of the Respiratory System* :—

	Cases.
Epistaxis . . . . .	1
Asthma . . . . .	1
Pneumonia . . . . .	1*
Bronchitis . . . . .	4 1*

3. *Diseases of the Digestive System* :—

Inflammation of Liver . . . . .	2*
Piles . . . . .	1*
Dyspepsia . . . . .	2 4*

4. *Diseases of the Urinary System* :—

Catarrh of Bladder . . . . .	1
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5. *Diseases of the Locomotive System* :—

Synovitis of Knee . . . . .	1*
Periostitis . . . . .	1

6. *Diseases of the Integumentary System* :—

Pemphigus . . . . .	1
Paronychia . . . . .	1*
Ringworm . . . . .	2
Eczema . . . . .	1*
Abscess . . . . .	1*

*D.*—DEVELOPMENTAL DISEASES.

1. *Developmental Diseases of Women* :—

Leucorrhœa . . . . .	4 2*
Abortion . . . . .	1

*E.*—LESIONS FROM VIOLENCE TENDING TO SUDDEN DEATH.

1. *Accidents* :—

Hanging . . . . .	1*
Wounds of Scalp . . . . .	2*
Bite of Cat . . . . .	1
Dislocation of Shoulder . . . . .	1*
Wound of Conjunctiva . . . . .	1*
Fracture of Lower Jaw . . . . .	1*
Scald . . . . .	2*

\* Visitors.

This table shows a total number of 139 cases of different diseases, and compares very favourably with the returns for the previous summer months. Under the head of Miasmatic Diseases, during the months of October and November some severe cases occurred. There was one case of *Cholera* in a child of eight years old which terminated fatally. I saw the child about five hours after it was first taken ill and she was then quite collapsed. She was not vomiting very much, but was passing rice-water stools constantly. Her skin and breath were quite cold, and the thermometer registered only  $96^{\circ}$  under the tongue. I at once had her put into a blanket wrung out of boiling water and mustard, and then well packed with blankets, (a plan which was recommended and practised by the late Dr. STOKES and carried out with great advantage in many cases during the epidemic of cholera in Ireland in 1866,) and administered alkalies well diluted in water or soda-water whenever she wanted a drink. She soon became warm and the purging ceased, and I had hopes that she might recover, but she became collapsed a second time, and died about thirty hours after the commencement of her illness. This was the only case of cholera which occurred among foreigners here, though during October there was much choleraic diarrhoea and cholera prevalent among the Chinese in the neighbourhood, and many deaths occurred. Among foreigners, at the beginning of October, diarrhoea was very prevalent, though few were so bad as to require much treatment, or even to seek medical advice; the cases recorded in the table were tolerably severe and accompanied with much fever and constitutional disturbance. One case of dysentery occurred in a resident which very nearly proved fatal. This case commenced at Saigon in a very delicate elderly lady who was coming to reside for the first time in China, and continued for nearly three months after arrival here. I attribute her recovery altogether to the time of year at which she was taken ill. Had the disease occurred in the spring or mid-summer her death would have almost inevitably followed from exhaustion. As I have before remarked, cases of dysentery arising here are extremely rare.

A severe and complicated case of illness in a child five years old deserves a passing notice. Sickness commenced with pain in the left ear. Next day violent fever with several red patches as large as the palm of the hand on different parts of the body, particularly on the chest and belly; towards night a severe convulsion which lasted half a minute, and subsequently several partial convulsions. At this time the child was quite unconscious. Next day there was a temperature of  $104^{\circ}$ , with nervous twitchings of face, arms and legs. Next day fever less, temperature  $99^{\circ}$  in the morning and gradually increasing to  $105^{\circ}$  in the evening. At this time there was a short cough and a few mucous râles in the right lung. For some days the fever continued unabated, the thermometer falling in the morning, attaining a maximum in the afternoon and falling a little towards evening; the child was always better in the morning though never very bright. The fever increased gradually till two or three in the afternoon, at which time the symptoms were very alarming; violent tossing of the head and arms, flushed face, pulse  $140^{\circ}$  to  $160^{\circ}$ ; respiration 60 to 70; temperature  $104^{\circ}$ . At this time the chest symptoms were most prominent; the mucous râles increasing in intensity and extent, though at no time more than would be caused by the very rapid and imperfect state of the respiration. The commencement of the fever with a convulsion and the subsequent chest complication pointed to an attack of pneumonia; the high temperature and the rapid breathing were also calculated to mislead in this direction; the mucous râles, however, gradually disappeared and a violent attack of diarrhoea came on, which in like manner passed off, and the child became convalescent. He continued weak for some time and finally had a tolerably profuse purulent discharge from his left ear, which continued for some ten days or a fortnight.

Among other classes of disease there were no cases of any special interest, and the half-year may be considered as a remarkably healthy one.

Dislocation of the humerus by simple muscular action without any violence is so uncommon an accident that the following case is worthy of notice :—

It occurred to a lady while lying in bed; she turned suddenly and the humerus slipped into the axilla. There was no apparent cause for the accident, and I found no difficulty in reducing the dislocation. This lady was not particularly weak, and the muscles about her shoulders were well developed.

The births during the half-year were four,—three girls and one boy, all natural labours and uncomplicated.

I am happy to have to report only one death, that from cholera, mentioned above.

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*F.*—Dr. MANSON'S Report on the Health of Amoy for the Half-year ended  
31st March 1878.

THE health of this port during the six months was good. There was but one death amongst the residents, a case of phthisis, and none amongst the shipping. Amongst the Chinese there was no epidemic whatever. Cholera completely disappeared early in the autumn, and small-pox, usually so prevalent in the spring, has hardly shown itself this year.

*The Plague in China.*—The following notes by Mr. E. ROCHER of the Customs service will be read with interest. They prove unmistakably the existence of bubonic plague in China, and that this dread disease has spread over a larger area of late years than is generally known. They are of great value as showing that the disease did not entirely disappear between the years 1844 and 1873, as some epidemiologists believe, and thus do away with the necessity for the supposition that in the latter year there was a re-creation of the plague virus.

In 1844 the plague disappeared completely from Egypt and Turkey in Asia, and we were told to congratulate ourselves on being finally rid of the most terrible of all epidemic diseases. For years there was no sign of it in its favourite haunts, and there seemed good reason for the belief that it had become a thing of the past. But in 1873, after an absence of nearly thirty years, it once more broke out in Mesopotamia, and ever since has been steadily extending its area till last year it reached the shores of the Caspian. To account for this reappearance after so long a period of complete absence, some epidemiologists have propounded their belief in the spontaneous generation of the plague virus, as it is absurd to suppose that parasites could retain their infective powers for nearly thirty years. But in the light of Mr. ROCHER'S notes such a thing is unnecessary, as his dates bridge over twenty years at least of the thirty during which the disease was supposed to be dead, and show that an extensive epidemic may rage in mid Asia, and Europe be in complete ignorance of the fact. In such a country as Central Asia, where the distances are great and travelling very slow, we can understand that such a disease as plague would take a long time to pass from west to east and back again from east to west, and that an interval of thirty years might elapse before the disease returned again to the place whence it started. Our knowledge of the countries to the north of the Himalayas is so meagre, and communication with them so difficult, that the plague might pass through them without our hearing about it at all, and one can readily suppose that it did actually pass thus from Yünnan to Mesopotamia or Persia to originate the epidemic at present raging in these countries. Mr. ROCHER'S description of the disease is sufficiently clear to justify us in calling it plague.

NOTES ON THE PLAGUE IN YÜNNAN.

The sickness known in Yünnan under the name of Yang-tzū (瘴子), and which appears to be nothing else than the plague, carries off yearly many victims from that province.

According to the men of note of the various districts, the disease appears to have been imported from Burmah. It is exceedingly difficult to say when it was first introduced. The learned say, and a great

part of the population hold the same opinion, that the centre and east of the province were exempt from the plague until the outbreak of the rebellion, while others assert that it had appeared in the extreme west near Talifu several years before this date. It is extremely difficult to fix these dates, but supposing the last statement is correct, the disease must have passed over very lightly, seeing that neighbouring districts were not cognizant of its presence. Since the commencement of the civil war, however, it has spread over the whole province decimating the population.

There is a fact that inclines one to think that the epidemic is owing to exhalations from the soil, and it is this, those animals that live in the ground, in drains or in holes, are the first to be attacked. This is particularly noticeable with the rats. As soon as these animals are ill, they leave their holes in troops, and after staggering about and falling over each other, drop down dead. The same phenomenon occurs in the case of other animals, such as buffaloes, oxen, sheep, deer, pigs and dogs. All are attacked, but the dog less severely than the others.

When these phenomena appear, it is not long before the disease spreads to man, and knowing this, the people take every precaution to guard themselves from the plague. They begin to purify their houses by lighting fires in every room, and in certain towns they abstain from pork. In man the disease commences with a slight fever, which rapidly increases, and in a few hours becomes very violent. The patient clamours for drink, and his thirst is insatiable. By and by a dark red swelling shows itself in the armpits, groins, or neck, and the fever continuing to augment, the patient becomes rapidly unconscious. The bubo increases till the second day, after which it remains stationary, and when it has attained its full size it is about as large as a hen's or goose's egg. At this stage consciousness returns, but there is still great danger, for if the swelling, which up to this point is very hard, becomes soft, and if the fever still continues, the case is considered hopeless. On the contrary, if the tumour opens externally, which is a very rare occurrence, there is a chance of recovery. Some Chinese physicians have attempted to cut these tumours, but either they have delayed the operation till too late, or else they have performed it imperfectly, for few have survived this treatment. Many of the practitioners whom I have seen at work do not hesitate to declare themselves powerless, and instead of giving a quantity of medicine, as is their practice in ordinary cases, content themselves with prescribing large doses of musk as a last resource.

During my stay in Yünnan, I have seen a great number of people struck with this disease, and I can say that very few recover. In places where the plague passes but lightly through, one might estimate the mortality at about four per cent., while in places where it stops for some time whole families disappear one after the other, and the population is completely decimated, and in some districts the inhabitants, to avoid the violence of the pestilence, abandon their homes and harvests, and camp out on the heights, where even sometimes the epidemic follows them.

What to my mind aggravates the evil and brings about much greater mischief is the practice of not burying the bodies of those who die of this disease, which the superstitious Chinese have adopted. Instead of being buried, the body is placed on a bier and exposed to the sun. The idea is that all who die of the plague are possessed by a devil, and may not be interred, lest the repose of their ancestors be disturbed, and the sanctity of the Fung Shui interfered with. As a consequence of this practice, the traveller passing the outskirts of a village where the plague is raging is nearly choked with the nauseous smell emanating from the exposed and rotting corpses.

During the years 1871, 1872 and 1873, I remarked that the epidemic began about the commencement of the rice planting, that is to say in May or June. Onwards from this time its ravages were severe wherever it passed. During the summer, which in Yünnan is the rainy season, although the epidemic still held its course, yet it was of a milder character, but it is from the time the rain ceases to the end of the year that the disease is most active and deadly. A peculiar fact with regard to the track of the epidemic I have observed in several places both in the north and south of the province. Instead of visiting every village in its direct line of progress, it would pass some completely by, visiting places near them, and on both sides, to return to those forgotten spots, several months afterwards, when the epidemic would appear

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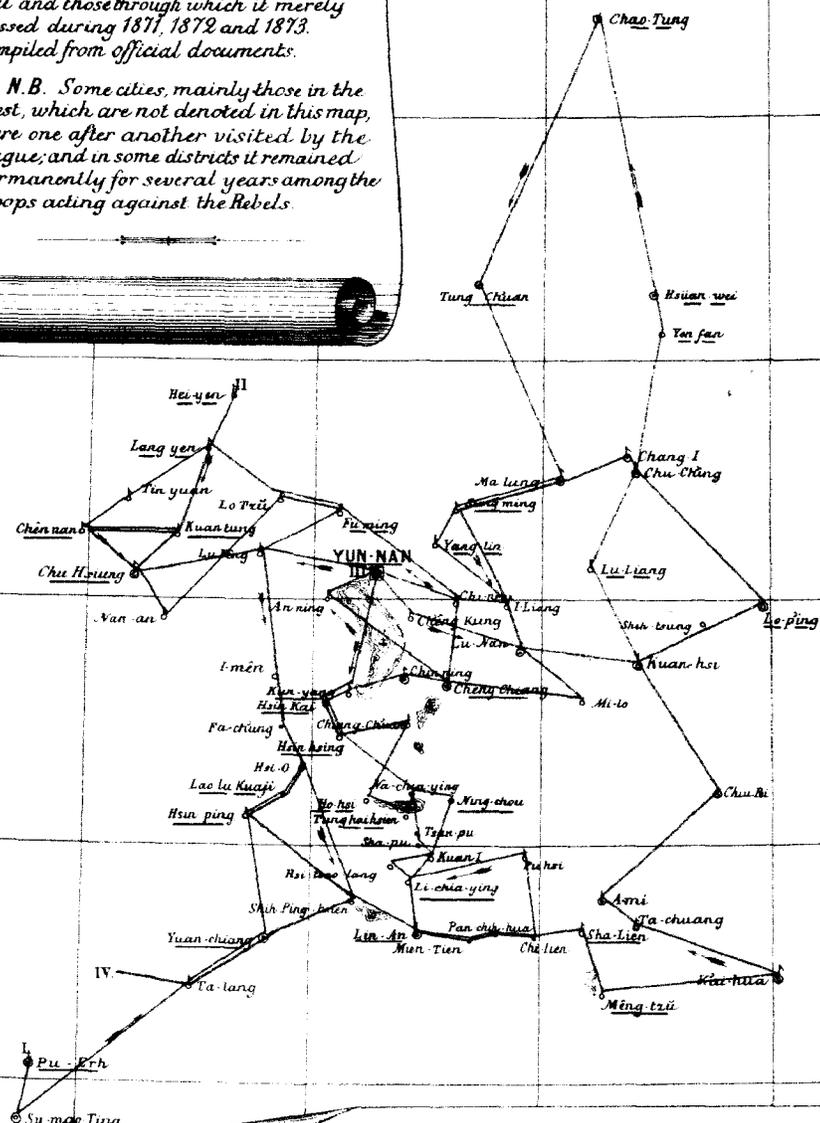
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# MAP

Showing the course pursued by the Plague, the districts wherein it was most fatal and those through which it merely passed during 1871, 1872 and 1873. Compiled from official documents.

N.B. Some cities, mainly those in the west, which are not denoted in this map, were one after another visited by the Plague, and in some districts it remained permanently for several years among the troops acting against the Rebels.



## Explanation.

- I. Starting point of the Plague in 1871 and 1872.
- Course pursued by the Epidemic in 1871 and 1872.
- II. Place where its advance ceased in 1872.
- III. Starting point in 1872 and 1873.
- Course pursued by the Epidemic in 1872 and 1873.
- IV. Place where its advance ceased in 1873.
- Districts where the Epidemic was notably fatal.
- - - Districts merely visited by the Epidemic.

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to have passed far away. Another fact not less curious is that, after having appeared in almost every one of the villages scattered about the plains, it ascends frequently the mountains, where among the aborigines, I-jên (夷人), who inhabit the high lands, it claims many victims. One is inclined to believe that the disease is imported by the men and women who descend into the valleys to barter, or work at certain seasons at the harvest, as it is chiefly the mountains adjoining the plains that are visited by the disease.

The map compiled from private and official memoranda shows the course followed by the plague during the years 1871, 1872 and 1873. I have not been able to include in it the towns of the west; this part of the province being at that time the seat of war between Imperialists and Mahomedans, the information obtainable was quite untrustworthy. However, I am quite certain that the epidemic was constantly present among the Imperial troops operating in this part of the province.

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G.—Dr. James WATSON'S Report on the Health of Newchwang for the  
Year ended 31st March 1878.

THE tables which I append to this report will show at a glance the meteorological conditions which have obtained in this district during the year under review. Generally speaking the health of foreign residents and of the Chinese community was less satisfactory than in recent years. During summer the climate was mild, the atmosphere less clear and bracing, while the rainfall was small in quantity if more frequent than usual. The season was a favourable one for vegetable life and pleasant in an unusual degree to foreigners, who frequently complain of prolonged unclouded weather as being very irksome, inasmuch as it is accompanied for three or four months by an almost constant glare during the day. In these circumstances there is little or no rain, but, as a rule, much wind, and the eyes suffer from the excess of brightness and the large amount of fine gritty dust with which the atmosphere is so frequently charged. With these drawbacks, however, the climate in summer (as in winter) has been, as a rule, eminently healthy, and with the absence of them last summer, sickness both general and serious declared itself amongst Chinese and foreigners.

There was a great deal of low fever of no very distinct type, diarrhoea, and many ailments due to the absence of proper food, among the Chinese during the whole year. Here as in Shantung and Chihli, there was much poverty, sickness and death in the native population. Unburied bodies were frequently seen on the roads and streets uncared for by anyone. The large drains which intersect the town were filled during the hot season with the accumulated refuse of the previous winter, and as there were no very heavy rains until the autumn, they remained practically choked up during the summer, and discharged into the atmosphere an amount of foul gases, which when the wind blew from the south, sickened the sailors in the shipping, and was the occasion of a great amount of discomfort, even where there was no actual poisoning, to the crews of foreign vessels anchored abreast of the town.

It was under these circumstances that my attention was drawn to the large number of natives who suffered from diarrhoea during the month of July. At first, the cases that presented themselves were simply those of aggravated diarrhoea, but towards the end of the month unmistakable Asiatic cholera manifested itself. One of the first cases of cholera I treated was a man who belonged to the Customs Police:—

I was sent for on the evening of the 26th July to see him. He was suffering from terrible cramp in the bowels, arms and legs. Before my arrival he had vomited freely and discharged large rice-water stools. His body was cold, the face and hands blue and his expression anxious. As there were a large number of his fellows unemployed, I had no difficulty in keeping up constant friction over the limbs and bowels, while hot bottles were placed round the body, and mustard poultices over the chest and abdomen. I administered brandy and spirit of chloroform and let him have rice-water to drink. He complained of great pain in the bladder, and as he said he had not voided water for many hours, I passed the catheter, but the bladder was empty. I gave him one or two doses of morphia, but in consequence of collapse setting in, I did not venture to continue with the opium treatment. He took, however, small quantities of stimulants, beef-tea

and rice-water, but with little apparent advantage. The following morning I again passed the catheter, but there was no water in the bladder. By noon, however, his skin was slightly warm, the face less pinched and he was able to take a little food without inducing either vomiting or diarrhoea. In the evening he was out of danger although exceedingly weak. His father, who had come to nurse him, was now anxious to take him home, but I protested, and he was allowed to remain where he was a little longer. Next day against my will he was carried home, and I learnt afterwards that the fatigue of travelling a considerable distance so prostrated him that he died of sheer exhaustion a day or two after getting to his father's house.

This case is a fair sample of those which came under my notice. When I saw them early they mostly recovered, but many died without being seen at all; while others were seen when it was too late to hope much from the administration of medicine. Of these last, however, some made good recoveries. Of course, one always feels that "the early cases" may have been simply instances of ordinary diarrhoea, but at such a season as the one I am referring to, when cholera was said and believed by the Chinese to be carrying off from 50 to 200 people a-day from a population of 50,000, it is probable that many of the cases of diarrhoea would have developed into cholera if the patients had not been promptly treated by opiates, stimulants, the recumbent position, etc.

The excitement which prevailed during the cholera epidemic amongst the Chinese was simply astounding. Whole trades ceased their business, deserted the town and went to their homes in adjacent villages. In this way no doubt the disease was carried to many an outlying hamlet, where I learned afterwards several deaths occurred. During this period of apprehension, the Rev. J. MACINTYRE was of great service to the Chinese. He asked me to supply him with drugs and directions for their administration, and for two months he worked hard from morning to night with great success. If he did not cure many cases of cholera, I feel sure from what I know of the work he did, that he relieved much anxiety and prevented many suspicious cases of diarrhoea from developing into undoubted cholera, while by his fearless attention to those suffering from cholera he helped to overcome the slavish terror which for a time all but paralyzed large numbers of the natives.

There was no case of cholera among the foreign residents. This happy immunity was due doubtless to the fact that most of them live in healthy houses, are in fairly comfortable circumstances, and were throughout the summer careful to avoid exposure to the sun or any other hurtful influence. Everyone was alive to the necessity of promptly checking the first symptoms of diarrhoea by some common astringent, and simple diet.

Amongst the shipping there were twelve cases of cholera, of which five were fatal. Of the latter, one was a French captain, two were sailors belonging to a German vessel, and two were Malays on board a Chinese-owned vessel under the British flag.

The French captain, when he entered the port, was suffering from what seemed, and indeed was, simple diarrhoea, but as he had been a patient of mine the previous year, for a constitutional disease, I deemed it wise under the circumstances to treat his ailment more gravely than I otherwise would have done. I therefore, much against his will, prevailed upon him to keep his bed for a day or two and live on milk and rice diet. Under this treatment he speedily got well. Unfortunately, however, a short while after he was convalescent and able to attend to all his duties, cholera symptoms appeared, and he rapidly sank and died in a state of collapse, reaction never having set in.

The two sailors belonging to the German vessel were weak men, and they rapidly succumbed to the disease, while a very fine comrade after a fortnight's illness recovered. The Malays were both old men who had been successfully treated for diarrhœa a week before they were attacked by cholera, but in their feeble state and the utter absence of house accommodation on board their vessel they became a ready prey to the prevailing epidemic.

There has been no epidemic of cholera at this port since the year 1862. Then, as now, this disease only attacked on shore the native population. Unlike the foreign residents, the bulk of the natives are poor and closely packed in their houses and supremely indifferent to sanitary conditions. In addition to our ordinary poor, we had at this time thousands of refugees from Shantung, most of whom were very poorly fed and houseless. Not only are foreigners' houses built in large compounds, (in many cases over an acre in extent), but these compounds are frequently separated by great spaces. It is not wonderful then that the Chinese died in great numbers, while the foreign residents, more happily circumstanced, were absolutely free from cholera. I found it quite impossible to ascertain the numbers which actually died during the epidemic. Stories were told and believed by the natives, of the mortality which were quite beyond the range of possibility. For instance, I was gravely assured that in one inn-yard no fewer than two hundred people had died in three hours who had been treated by the native faculty by acupuncture. From enquiries I have made in many directions I am inclined to believe that between 40 and 60 people died daily during portions of the months of July and August when the epidemic was at its height, while during the months of September and October the mortality rapidly decreased. Doubtless at this time many deaths occurred from other causes, especially among the poor refugees from Shantung who suffered from a kind of typhus fever.

I have an interesting fact to note in connection with this epidemic. Only a very few cases of cholera had occurred before the 25th July, on which date we had a cold blow from the north, with heavy rain, which I hoped would tend to moderate the severity of the threatened epidemic, if it did not actually cut it short. Instead of this, however, the mortality rapidly increased and continued high until the end of August, when it commenced gradually to decline. By the middle of October the epidemic was over.

I have in former reports remarked that the winter climate of this district is certainly a healthy one for people who are fairly robust and who take moderate care of themselves. Experience confirms me in this opinion. It also bears me out in the qualification which I made, namely, that it is a trying one for weak people, especially such as have a tendency to pulmonary or cardiac ailments and who either from their profession or other circumstances are unable to take those precautions which the strongest of us find necessary to insure health and comfort during our Arctic winter.

The sisters connected with the Roman Catholic Mission at this port are in the winter and autumn months constantly illustrating the necessity which exists for defending ourselves against the sudden changes of the temperature. From the severe life they lead, they are more easily affected by any depressing cause than are the lay members of the community, and as a matter of fact nearly all the grave cases of sickness that have occurred among foreigners at this port for the last two years have been among members of the Catholic mission. Last October, the sisters were engaged in removing their furniture, etc., from their old and unhealthy house to a new and

comfortable one, built in another portion of the same compound. The weather was then changeable and at times cold and damp. No sooner were they settled in their new house than nearly all suffered from pulmonary catarrh, while two of the most delicate were prostrated with inflammation of the lungs and rheumatic fever. The sister superior, a frail delicate lady, rapidly sank, and died on the 23rd October, while the other sister, after a long illness, made a good recovery. These sad occurrences added weight to my frequent warnings, and I was glad to find that after them a little more attention was paid by the mission to the necessity there existed for proper clothing, food, etc.—as a preventive against disease, than had formerly been the case. The lady who now became superior had received a certain amount of medical education and she seemed to recognise the propriety of doing everything in her power to preserve the health of the sisters. They all enjoyed good health during November and until the end of December, at which time the sister “doctor” had some cases of fever under her care. These she nursed with unremitting attention, besides undertaking a great deal of work which fell to her as superior. In addition she was especially busy with duties connected with the celebration of Christmas, which fully occupied her time from five in the morning until bedtime. During the Christmas season and until the 2nd January, she was treating herself for what she believed to be a simple cold. On the afternoon of New-year’s Day I called on the mission, and I was struck with the pinched and exhausted appearance of the sister superior. I saw she was very ill and advised her to go to bed at once, but she protested it was only a slight chill she was suffering from, and as another visitor was in the room I did not urge the matter further. Next day I called professionally and found her sitting close to the fire, weak and feverish with a small pulse (130). I then learned that she had had several severe rigors on Christmas Eve at the service in the church, and that ever since she had been getting weaker. She had many of the symptoms of typhus but there was no rash, while both lungs were inflamed and the limbs suffered from severe rheumatic pains. She lived on until the 9th January, although from the day I first attended her (2nd January), she scarcely took any food, and only a very little wine and a fever mixture. While treating this case two other sisters complained to me of having had distinct rigors. I at once ordered them to bed. The pulse was in both cases small and fast (in one 110, in the other 130). In a few days characteristic typhus rash made its appearance. The fever was in both severe, but the stronger of the two patients was the most anxious case, the delirium being wild and prolonged, and the nervous exhaustion excessive. Both patients recovered.

Everyone who has had experience in the treatment of typhus, knows the marked muscular weakness which is characteristic of it. In the above cases, from the very first, the physical prostration was most pronounced. It was with great difficulty that either patient could move in the slightest degree in bed, and until advanced convalescence they were absolutely unable to help themselves.

In a former Report,\* I remarked on the unhealthy house and compound in which the sisters lived. Now they occupy the best built house in Newchwang, and a great deal by drainage and otherwise has been done to improve the sanitary condition of their compound. What then is the cause of the great sickness and large mortality that distinguish this mission? I think there can be little doubt, that while a certain amount of the sickness is due to the unfortunate

\* xii. 28.

site of the mission building, it is now greatly if not principally due to other causes. These causes are those common to sickness and mortality all the world over. The sisters lead an ascetic life and their physique is never equal to that of the lay members of the community. Summer and winter they rise at five o'clock in the morning. Their religious services in winter are held in a church in which the temperature is frequently little above zero Fahrenheit, and then they are insufficiently clothed. While the house in which most now live (that is sleep and have their food) is nearly everything that could be desired, they spend many hours daily in small Chinese buildings, the floors of which are little, sometimes not at all, above the ground and in which the atmosphere is vitiated by exhalations from large classes of poor native children. It is natural that under such circumstances vitality should be impaired, and that if fever is present people so circumstanced should fall victims to it. If the prudence of those who are responsible for the working of the mission was equal to the devotion of its agents, there would be less sickness and fewer deaths than unfortunately has been the case in past years.

The Meteorological Tables show that the winter and summer were exceptional. In the former we had less cold, in the latter less heat than in recent years. In July and August the thermometer was lower than in the years 1875 and 1876; there were almost no strong winds; and the cholera epidemic was at its height.

The general health of the community during the year, although not quite satisfactory, would have called for no especial notice but for the epidemic of cholera and the cases of typhus in our neighbourhood. The cholera left foreign residents unscathed; and the cases of typhus, while occurring amongst Europeans, attacked only those living under altogether exceptional circumstances. The first cases of cholera are believed to have come to this port in junks from Amoy. The typhus fever there can be little doubt was derived from the poor Shantung refugees, many of whom were cared for by the Roman Catholic Mission.

The Meteorological Tables for this Report were kindly furnished by Mr. Chas. DEIGHTON-BRAYSHER, Harbour Master.

METEOROLOGICAL TABLE for one year, beginning 1st April 1877, and ending 31st March 1878.

MONTH.	No. of days on which temperature fell below zero.	No. of days on which temperature fell below 10°.	No. of days on which temperature fell below 20°.	No. of days on which temperature fell below 32°.	No. of days on which temperature fell below 42°.	No. of days on which temperature was above 65°.	No. of days on which temperature was above 70°.	No. of days on which temperature was above 75°.	No. of days on which temperature was above 80°.	No. of days on which temperature was above 85°.	No. of days on which temperature was above 90°.	No. of days on which rain fell for upwards of 2 hours in the 24.	No. of days on which snow fell for upwards of 2 hours in the 24.	Highest reading of Barometer, in inch, 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 on which no rain or snow fell.	No. of Dust Storms.
	1877, April.....	—	—	5	12	7	3	—	—	—	—	—	3	—	30.44	10	2	27
" May.....	—	—	—	1	17	12	6	—	—	—	—	5	—	30.36	3	2	22	1
" June.....	—	—	—	—	30	27	22	13	2	—	—	6	—	30.04	5	2	25	1
" July.....	—	—	—	—	31	31	30	20	13	—	—	5	—	30.02	—	1	23	—
" August.....	—	—	—	—	30	27	24	17	10	—	—	2	—	30.20	1	—	26	—
" September.....	—	—	—	—	29	21	16	7	—	—	—	6	—	30.26	3	1	23	—
" October.....	—	—	—	—	3	2	—	—	—	—	—	4	2	30.39	5	1	26	—
" November.....	—	—	2	24	—	—	—	—	—	—	—	2	1	30.63	3	1	27	—
" December.....	—	12	26	31	—	—	—	—	—	—	—	—	1	30.90	3	—	30	—
1878, January.....	6	29	31	31	—	—	—	—	—	—	—	—	—	30.76	3	—	31	2
" February.....	—	13	22	28	—	—	—	—	—	—	—	—	2	30.74	—	—	26	1
" March.....	—	—	1	23	—	—	—	—	—	—	—	2	—	30.66	2	—	29	3

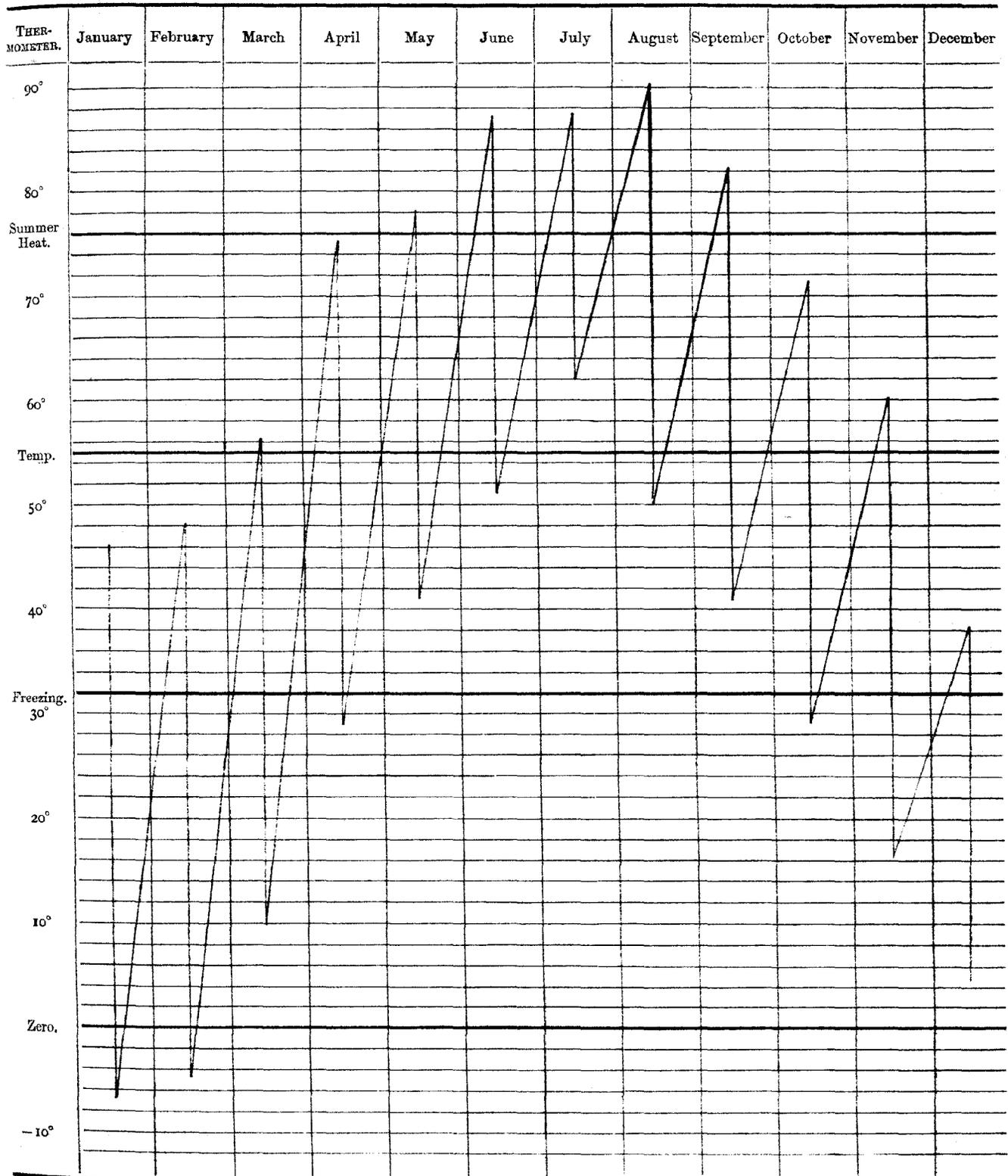
REMARKS:—Ice first appeared in the river on the 26th November, and on the 17th December it was completely frozen over. Two days later people were able to cross over on foot, and on the 23rd, the ice was sufficiently strong to allow of horses and carts passing in safety.

On the 10th March the ice first showed signs of breaking up, and on that day the river was open from below Everlasting Point. On the 15th the river was clear from below Centre Temple. The day following the ice had broken away from both banks as far as the Upper Limits of the Harbour, though still drifting up and down with the tide in large quantities till the 21st when all disappeared.

The Thermometer (Fahrenheit) was hung under a verandah in a shaded situation facing the north. The Barometrical readings were taken from an instrument placed about 8 feet above high-water level.



CURVE showing the MAXIMUM and MINIMUM READINGS of the THERMOMETER for 1877.



*H.*—Dr. RENNIE'S Report on the Health of Takow and Taiwan-fu for the  
Year ended 31st March 1878.

THE past year was an unusually healthy one. Among the foreign community, which numbered about forty, there were only four cases of malarial fever. Among foreign residents the effects of malarial poisoning are seldom manifested as intermittent fever with regular paroxysms or as pernicious fever with dangerous symptoms. In three of the cases treated quinine answered therapeutically all that could be wished, and in the fourth which was associated with subacute rheumatism, salicylic acid was administered with success.

Among the floating community there were many cases of diarrhoea, which in most instances was caused by over indulgence in indigestible fruits. Venereal complaints were very common on board vessels both from Hongkong and Amoy.

During the twelvemonths, among Europeans, there was one death from pulmonary apoplexy. The subject, aged 32 years, had resided over 13 years in the south of China, and previous to coming here in November 1873 had for six years been afflicted with chronic tubercular phthisis. On reaching this, only the middle lobe of the left lung with portions of superior and inferior lobes of same lung were available for carrying on respiration. Notwithstanding the limited space left to aerate the blood, the patient instead of becoming emaciated became exceedingly obese, the effect of a suitable climate, generous living, and but little anxiety. Excepting an attack of pleurisy in February 1874, which served to complete the destruction on the left side, the remainder of his existence was passed in remarkable immunity from suffering of any kind. Outwardly his condition seemed much improved, and at the periodical examination of his chest which chanced to be held two days previous to the sudden onset of fatal pulmonary hæmorrhage with laceration of lung structure, no extension of the disease during his four-and-a-half years's residence could be detected. For three years before death hypophosphite of lime was daily taken with the food.

For the following Meteorological table I am indebted to Mr. MANNERS the Harbour Master.

MONTH.	BAROMETER.			THERMOMETER.			RAIN.	
	Max.	Min.	Mean.	Max.	Min.	Mean.	Days.	Inches.
	inches.	inches.	inches.	° F.	° F.	° F.	<i>d.</i>	<i>h.</i>
April .....	30'30	29'93	30'10	86	62	79	0	15
May .....	30'15	29'75	29'96	86	74	81	1	22
June .....	30'18	29'64	29'97	91	70	82	1	11
July .....	30'04	29'53	29'87	90	70	84	5	20
August .....	30'01	29'17	29'85	91	68	83	4	2
September .....	30'14	29'95	30'05	92	73	85	0	11
October.....	30'30	29'90	30'14	87	74	83	0	4
November .....	30'34	30'04	30'18	86	71	81	0	0
December.....	30'30	29'99	30'16	85	61	79	0	4
January .....	30'33	29'91	30'21	84	53	73	1	5
February .....	30'40	30'01	30'22	83	58	70	0	7
March .....	30'38	30'03	30'20	84	60	74	0	19

In former years the rainfall was almost entirely confined to the summer six months, and a winter has often passed without a shower. During the past six months, the rainfall though considerable for the season was not so large as could not be immediately lost in the parched ground, and does not seem to have had any influence in developing the agents usually supposed to give rise to paroxysmal fevers. During the months of December, January and February, no cases of malarial fever came for treatment to the Chinese hospital.

The summer six months were characterised by the absence of the usual severe rain and wind storms. The prevailing winds were from the west and north-west. The winter was unusually warm, for a month seldom passed without several days of moist and relaxing southerly winds.

Among natives as among foreigners the year was remarkably healthy. Judging from the number and type of cases of malarial fever admitted to the Takow Chinese Hospital, and from hearsay, such disease was less prevalent and of a milder nature than usual. The Chinese from the mainland who have during the past seven months been brought over to colonise the southern part of the east coast and the uncultivated districts along the south-west of Formosa have during the north-east monsoon escaped disease, but during the south-west monsoon, until the jungle be thoroughly cultivated, remittent fever must carry off many, as was the case with the Japanese during their stay in the same regions and with the Chinese soldiers who succeeded them. It is from the uncultivated interior that severe remittents are brought for treatment.

In spring small-pox made its annual appearance among the natives.

Asiatic cholera, which visited several ports on the mainland, never appeared either in Takow or Taiwan-fu, and on the most careful inquiry, I have not been able to obtain evidence of a case having occurred in South Formosa. Seeing that an extensive junk trade is carried on between the mainland (principally Amoy and Chinchew) and the small ports and harbours along the west coast of Formosa, we were agreeably surprised that cholera did not visit us. During the epidemic in Amoy several foreign vessels came thence to Takow and Taiwan-fu.

I.—Dr. W. W. MYERS's Report on the Sanitary Condition of Wênchow.

THE city of Wênchow, situated in Latitude  $27^{\circ} 18' 4''$  N., and Longitude  $120^{\circ} 38' 28''$  E., lies on the south bank of the large and deep Ou-kiang 江 甌, about 20 miles from its mouth.

The river flows at this part west and east, between long ranges of hills to the north and south, down to the sea.

That the Chinese must possess more than an elementary acquaintance with sanitary laws the condition of this city would seem to indicate; and whereas in Peking and other cities the knowledge has for long been allowed to lie dormant and its former products to fall into ruin and disuse, here the contrary obtains. The streets, regularly laid out and closely paved, slope down on each side to drains or gutters, which in their turn communicate with the canals running through all the city. About every hundred yards are latrines and urinals which are emptied in the early mornings at regular hours. These privies, well supplied with water and their contents not allowed to remain long enough for putrefactive changes to take place, constitute a system which by itself is a most commendable advance in hygienic science. At early dawn scavengers go round, sweeping and clearing the streets and side gutters, emptying and cleaning the utensils used in the houses during the night, and collecting all rubbish and refuse, taking it away to be either destroyed by fire, or used for the fields. The canals are, as a rule, pretty full, or at anyrate by their depth able to retain a sufficient supply of water between the intervals of rain to allow for the usual evaporation. They communicate one with the other, here and there widening out into a broad sheet or small lake; and thus a steady though slow circulation is kept up. They are constantly dredged, and all vegetable or other matter is carefully collected and removed. As may be supposed, the absence of those atrocious smells consequent on decomposing organic matter usually met with on entering most other Chinese cities is strikingly noticeable in Wênchow. The inhabitants, taken as a whole, well to do and contented, are able in the great majority of cases to live in comparatively roomy and airy houses isolated from each other by high walls, and in a great many instances, spacious courtyards. To judge by the absence of all appearance of overcrowding, I am of opinion that the population is by no means excessive in proportion to the area available for its accommodation; and this notwithstanding the many plots of common, etc., scattered throughout the place.

This has been aptly styled "a cathedral city:" large and gorgeous temples abound and numerous priests and nuns luxuriate in the markedly devotional spirit shown by the people. One advantage derived from these frequently recurring Joss-houses is the large greens or open spaces generally connected therewith, where the laity, old and young, may congregate if it so

please them, and inhale the fresher air, while the general atmospheric circulation and purity are also improved.

The people seem to be very careful as to the water they drink, drawing their supplies from wells dug in places as remote from habitations as possible. These are further secured by encircling walls closely cemented so as to keep out the surface drainage. As far as I have observed, this water is kept solely for potable purposes, canal water being used for washing, etc., etc. Thus the dipping of filthy vessels, and other means of contamination common elsewhere, are avoided if not prohibited. As with very rare exceptions no interments take place within the city, and for the reasons before given, decomposing vegetable or animal matter is scarcely to be met with, the water ought to be good; and this I am glad to say chemical and microscopical examination—as far as I have been able to carry it—appears to bear out.

Last year was an exceptionally wet one all over the south of China, and that we were not without our full share a glance at the hygrometric table will show. Although the days in each month on which rain actually fell in the city were not as numerous as I expected to find, still so intermingled were the rainy with the dry days, so marked the dampness of the atmosphere with rain pouring on and near the hills to north and south of us, that it is matter of surprise when going over the record to find that it rained with us on so comparatively few occasions. It seemed to all as though "wet" weather had scarcely ever ceased from June of last year until January of this. When we did have a fine clear day it was certainly most enjoyable, the summer heat, pleasantly tempered by the fresh sea-breezes which blow up the funnel-like valley directly on to the city, was scarcely felt, and speaking from my own experience, the sensible effect of temperature here contrasted most favourably with that of Shanghai and Ningpo, through both of which places I had occasion to pass on my way from and to Wenchow in July and August.

In the city the perfect system of drainage obviated many of the disadvantages of the wet season; but on Conquest Island opposite the city and in the middle of the river, where several of the residents were living, and where the meteorological instruments were kept, the damp was more palpable. Notwithstanding this, I think I may fairly assert that the great depression and languor complained of so much in most up-river places is felt here to a very limited extent if at all; but on the contrary, (thanks to the sea-breezes which have so ready access to us,) we are often conscious of an exhilarating and bracing effect, which goes far to modify other discomforts. Of course from one year's observations—and that said to be, by those best qualified to speak, an exceptional one—it would be premature to say much about climate; but I feel justified in hoping and to some extent believing that this place will be found to combine many of the sanitary advantages of a seaport with but comparatively few of the drawbacks peculiar to most riverine settlements. Of course, should the settlement be eventually fixed at or about the mouth of the river the port will then be to all intents and purposes a seaside one; but on this subject I will say something farther on.

The city may be said to be enclosed by a circle of small hills along the summits of which the walls run. The ground within these is considerably elevated above the river and therefore disaster or flooding from tide or freshet is unknown in Wenchow. On the plain extending from the base of the large hills forming the south side of the valley up to the walls of the city, rice is largely cultivated, the means for irrigation and transport being afforded by numerous canals.

Shut out from the city as these are, no injurious effects from malaria or other causes are to be met with or indeed looked for. Throughout the city are many good double-storied houses which with a few additions (*e.g.* glass windows, extra flooring, etc.) may be readily converted into comfortable and healthy abodes. Rents too are remarkably low, which is another advantage, although I presume the natives would not be long in finding this out were the demand sufficient to warrant consideration of the matter.

On our arrival here we felt the want of beef very much, as that sold in the market for Chinese consumption is of the most objectionable kind, being generally procured from the carcasses of animals that have died from disease or been slaughtered in anticipation of the event. After some little time, however, the community were able to arrange with a Chinese compradore to kill regularly, the animal being submitted to medical inspection before, and the beef after, slaughter. We have thus been getting tolerably good and at anyrate healthy meat; and as the butcher now and then varies the programme by killing a sheep, we feel much more satisfied on this score than at first seemed probable. In the cooler weather goat-mutton is to be had; and this is by no means a bad substitute for the other, forming a pleasant change in the bill of fare. Geese, fowls, eggs, ducks and vegetables are plentiful; and, could one get over long cherished prejudice, the pork ought to be found good, as the pigs are as a rule kept in styes, and are carefully fed and properly cared for.

When I add that all the above are cheap, the commissariat of the place will not be thought badly of.

From a medical point of view, I can only note the general good health which has prevailed among the foreign residents, but seeing that the community has been and is so small, no great inference can be drawn from this fact, especially after so short an experience, though it ought to be mentioned that the 26 residents here on the 31st of December, as also the diminished number of 23 present on the 31st March include five ladies and three children, the youngest of the latter being 18 months and the eldest 4 years and 6 months old.

Although I have made strenuous efforts to get up a native practice I cannot say that I have met with the success I hoped for. The Chinese seem as yet shy of coming under foreign treatment, and entertain most peculiar and contradictory notions as to its capabilities. On the one hand, they appear to think that in certain cases death is no bar to foreign skill, and on the other they profess to believe in the superiority of their own doctors in cases where the appearances are not so desperate.

Ague from country districts came occasionally under notice. Ophthalmia, and in fact most eye-diseases, are very common, especially catarrh and pannus. Small-pox does not seem to be more rife than the fact of vaccination not being practised would lead one to expect. Last summer, in common with most places in China, cholera prevailed for a short time, about ten days or a fortnight. Little or no treatment appeared to be adopted. The prevalent symptoms were the initiatory passage of one or two rice-watery stools, followed by collapse, *i.e.* surface coldness, slight cramps, often suppression of urine, no or very little vomiting, and in from 6 to 24 hours sudden death. Opium-smokers almost certainly died. The symptoms, however, were peculiarly undemonstrative to external observation, the patient frequently appearing to rally, and in many cases the fatal termination was not preceded by an appreciable relapse. Purging and

vomiting, except to the limited extent mentioned, was very rare; but the mortality amongst the attacked was very great. I had a strong impression that attempts at rational treatment would have brought about different results, at least in a great many cases; but nothing seemed to be tried. As soon as the native doctor made out the nature of the case he departed and the domestic offices for the dying or dead commenced.

The visitation was by no means spread over the whole city, but confined to a few streets chiefly in one quarter. To obtain anything like regular statistics was of course impossible, but it seems very probable that the minimum death-rate was 10 per diem, running up for two days to 35, when it again fell to 10, and soon the unpleasant visitor left. To the wonderful sanitary condition of the place I unhesitatingly attribute the limitation of the onslaught and stay of the epidemic; and I was glad to observe that some attempt at disinfection by cleansing the rooms, burning the bed and body clothes, etc., was made. Again, the bodies were immediately confined and removed to some remote place, generally outside the walls. I treated three patients, one of whom died. I found chloral hydrate hypodermically in conjunction with other remedies, such as friction, heat, etc., most useful. Nitrite of amyl gave no results as far as I had an opportunity of observing. The subject of the fatal attack was a confirmed opium-smoker, and so pertinacious was he, that after rallying during my temporary absence he insisted on having a pipe. No bad symptom that I could observe set in; the temperature kept at about 99°, and I left him about 3 A.M. At 8 A.M. a messenger came to tell me that he was all right. Desiring to see him myself, however, I returned with the man, and found him just dying or dead. He had sat up to drink some milk, when he suddenly fell back dead. The relatives had all along insisted to me on the certainty of his death, as he was so great an opium-smoker. Whether they tried to justify their predictions by an unlimited supply of the drug during my absence I cannot say; but if they did it was not for want of earnest warning, or strenuous promises on their part to refrain from giving him any.

Elephantiasis I have seen once or twice, but I am not in a position at present to speak as to the frequency of its occurrence or otherwise. Skin diseases are very general, scabies being the most common. Ecthyma disease is very plentiful; the ecclesiastical tendencies of the place seeming to favour its spread, as the nuns are merely prostitutes and are as a rule diseased. Their favours are largely sought notwithstanding a comparatively high fee and the general knowledge of their infected state. There are about 40 convents besides several brothels containing avowed prostitutes, and it is stated that domestic morality stands very low, many married woman being notoriously dissolute. The wide spread of syphilis is by all this easily accounted for.

Opium-poisoning cases at certain periods of the year are common, and on the occasions where my aid has been sought the subjects have been generally insensible. I have been able, however, by means of atropine and strychnine, after washing out the stomach well with cold water, to resuscitate the greater number of those treated. The Chinese remedies most in vogue here are: first, the contents of the adjacent urinal or fluid from a latrine; next, the warm blood as it spurts from the recently incised throat of a sheep, goat or fowl. In ignorance of this last mode of procedure, the first few discharges from the stomach-pump are apt to cause alarm. Unaccountable as it may appear, the above would-be emetics generally fail to bring about the desired result.

Perhaps it will be as well to say a word or two about the sanitary conditions of the various sites which have been proposed for the foreign concession. These are as follows:—

- (a) The piece of ground to the east of the city offered to Mr. DAVENPORT for selection;
- (b) The pagoda hill opposite the city proposed by Mr. H. E. HOBSON; and
- (c) The plot beyond the anchorage or lower Customs station.

I believe Conquest Island, a small piece of land lying in the middle of the river opposite the city, and at present affording site for one large temple and two pagodas has been suggested; but I assume only mentioned to be discarded. Supposing the port ever worthy of any fixed concession or settlement, one ordinary merchant (should he be able to buy up the temple, demolish it and erect his house and godowns in the place where it stands) might perhaps by dint of considerable trouble and large outlay make himself comfortable. Or supposing godowns could be located elsewhere, then perhaps at most two or three dwelling-houses might find space. However, as it is not only probable but I suppose certain that the Chinese would scout the idea of giving up a temple that is revered as this one is, Conquest Island even with its temple and pagodas demolished would be miserably inadequate for the purpose, should the increase of this port render a concession necessary, or its size and position of importance.

Had this been a port like Ningpo with only flat marshy ground to choose from, and had the pressing necessity of being close to the city put all other considerations in the background, then perhaps—could no thicker mud be attainable—the first site might be forced on our acceptance; and by means of unlimited pile-driving and interminable contributions of rubble a foundation sufficiently hard to support houses, for say one or two years, might be obtained. It might also be so raised that, except at spring tides, fluid of less consistence than slush could be kept away; but seeing that this is about the only piece of ground in Wénchow which presents such marked disadvantages I cannot see why it should be taken. I am aware that the greater part, if not the whole of it, belongs to one or two of the officials; but this is scarcely reason sufficient for putting foreigners to the pecuniary outlay which the formation of the settlement, loss of time whilst down from miasmatic disease, medical and funeral expenses would surely entail. True, a very good sanitarium might be established in the adjacent city; but though this might avert for some time the last item of expenditure, still it would scarcely amount to a saving in the long run. If low, flat ground *must* be taken on this side of the river, then a little farther back, or lower down, some could be got that is at least above high-water mark; although by so choosing foreigners would be unnecessarily tempting a state of unhealthiness that might be easily avoided by taking up some equally accessible and more elevated spot.

Pagoda Hill (b) was proposed by Mr. HOBSON, and certainly from a sanitary point of view this would appear to combine all that could be desired. It is in the direct line of the sea breezes in summer, while sheltered in winter. Good views could be got from at least three sides, and the houses could be built on good, dry gravel foundations. The only drawback would be the distance from the city, as this hill is on the opposite (north) bank of the river, which latter is at this point about  $\frac{1}{2}$  to  $\frac{3}{4}$  of a mile wide. Again, steamers or sailing ships would have to lie at the city side, as the anchorage is not so favourable on the other.

The aforesaid two sites have been proposed on the supposition that it is necessary for the foreign settlement to be as close to the city as possible. Now, if this means close to the native

merchants and their hong it will scarcely apply to Wénchow at present, for the simple reason that there are none. Almost all the trade is connected with the districts more or less far back in the interior of the country, *i.e.* tea and other articles for export, piece goods, opium, oil, etc., etc., for import. The people proper of Wénchow city are by no means given to extensive or speculative trade, and as a consequence, the junks go to all the places along the river and coast which happen to be near the greatest body of consumers. Of course, were foreigners to come here and establish steamer lines and other means of inducing trade, the city could and would eventually be made the point of contact; but the intermediary native merchants would be all men from other parts to whom Wénchow city only became a residence because of the necessity set up by foreigners. Thus they no less than foreigners would be settlers, with this exception, that their movements would be dependent on those of foreigners. Now, seeing that in most cases cargo going inward, and especially that coming for shipment (markedly teas) actually has in most cases to diverge from the anchorage in order to reach the city, and that the concentration of trade at this last or other places is so to speak dependent on the presence of foreigners, it would appear that practically the desire of merchants to be as close as possible to those with whom they wish to do business could be met by the establishment of a settlement at the mouth of the river, while the inconvenience to shipping necessarily attending a location higher up would be entirely obviated. I have often heard it said that this was the mistake made at Foochow, and the resulting upper and lower settlements regretted as constant sources of inconvenience. That it is not essential to the prospects of trade for the settlement to be close to the city is, I believe, shown by that at Yingtze, some miles below Newchwang.

Supposing then that the mercantile obstacles to forming the settlement at the mouth of the river are not insuperable, the sanitary advantages are immeasurably great. At this point the hills come close to the water-side, and at the extreme and seaward point of the south bank slope directly down to it. There are one or two smaller hills which intervene between those behind and the river-side, and than these no finer sites for building good, dry, healthy houses could be found. The water frontage, well above high-water mark, would be excellent for godowns, and the largest vessels could lie within 100 yards of the bank. Being close to the sea, a settlement here would to all intents and purposes be a marine one; the conformation of the hills and the proximity of the sea would render it cool in summer, and the shelter afforded by the hills would prevent its being unduly exposed in winter. Connected by deep canals and good roads with the country in the back, and with the city 8 or 10 miles off, the facilities for landing, shipping and transporting goods would be unusually great, while the opportunities for making one of the healthiest settlements in the south of China would be very marked. On the adjacent hills and in the numerous valleys there is fine scenery of all kinds, and charming walks. With but comparatively small outlay, riding and even driving roads might be made. In a word, should the port of Wénchow ever assume the commercial standing to which its geographical position entitles it, a foreign settlement at Jar Point ought to be all that could be desired.

## ABSTRACT of METEOROLOGICAL OBSERVATIONS taken by the CUSTOMS,

Latitude 27° 18' 41" 0" North,

DATE.	BAROMETER.		THERMOMETERS.				HYGROMETER.					
			Dry Bulb.		Wet Bulb.		Temperature of Dew-point computed.		Elastic force of Vapour.		Humidity 0-1.	
	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.
<b>APRIL:—</b>	inches.	inches.	° F.	° F.	° F.	° F.	° F.	° F.				
Max.....	30'07	29'95	75'	79'	73'	74'	71.6	70.5	.774	.745	.965	.882
Mean.....	29'91	29'89	69'90	71'8	68'5	69'63	67.4	67'84	.670	.680	.917	.873
Min.....	29'79	29'75	65'	67'	64'	65'	64'	63'4	.596	.583	.889	.752
<b>MAY:—</b>												
Max.....	30'08	30'05	78'	78'	72'	74'	67.8	71.2	.680	.763	.874	.896
Mean.....	29'93	29'92	71'64	72'3	68'7	69'2	66.34	66'72	.645	.654	.834	.829
Min.....	29'79	29'78	64'	65'	62'	63'	60.2	61.4	.575	.544	.709	.796
<b>JUNE:—</b>												
Max.....	30'04	29'97	84'	89'	81'	81'	78.9	76.2	.987	.902	.992	.882
Mean.....	29'85	29'84	77.4	78.2	74.3	74.7	72.13	72.25	.787	.789	.839	.818
Min.....	29'67	29'68	68'	69'	67'	67'	66.2	65.4	.643	.625	.838	.660
<b>JULY:—</b>												
Max.....	30'00	29'98	88'	91'	82'	83'	78.4	78.2	.970	.964	.941	.942
Mean.....	29'72	29'79	82.2	82.6	79.1	78.87	76.93	76.25	.924	.902	.838	.810
Min.....	29'64	29'59	77'	75'	75'	74'	73.6	73.3	.827	.819	.828	.662
<b>AUGUST:—</b>												
Max.....	30'07	30'05	85'	90'	82'	85'	79.9	82.0	1.019	1.092	.847	.775
Mean.....	29'85	29'82	80.8	83.6	77.7	79.2	75.53	76.12	1.222	.899	.840	.681
Min.....	29'62	29.62	76'	76'	73'	74'	70.9	72.6	.755	.800	.820	.480
<b>SEPTEMBER:—</b>												
Max.....	30'19	30'15	84'	86'	79'	81'	75.5	77.5	.882	.942	.939	.828
Mean.....	30'05	29'99	75.43	76.87	73'	74'07	71.29	72'01	.763	.784	.868	.851
Min.....	29'90	29'85	67'	68'	66'	65'	65.2	62.6	.621	.567	.757	.758
<b>OCTOBER:—</b>												
Max.....	30'44	30'39	75'	80'	71'	74'	68.2	69.8	.689	.728	.794	.711
Mean.....	30'21	30'16	67.2	72.9	62.2	66.3	58.20	61.22	.485	.540	.728	.686
Min.....	30'06	29'95	56'	62'	48'	52'	40.0	43.0	.247	.277	.550	.497

WENCHOW, for the ELEVEN MONTHS ended 28th February 1878.

Longitude 120° 38' 28" 50" East.

SELF-REGISTERING THERMOMETERS.		RAIN IN 24 HOURS. Inches.	WIND.				CLOUDS.		No. of days in each month on which no rain or snow fell.
Maximum in Air.	Minimum in Air.		Force as per Naval Scale.		Summary of Direction.		0-10.		
9-30 A.M.	9-30 A.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.	
° F.	° F.	In default of a Rain-gauge no observations were taken.							
83°	73°		2'	2'			2 at 10 1 " 9 1 " 8	5 at 10 2 " 9 1 " 4	6
75°17'	67°04'		'8	1°00'			2 " 7 1 " 5 1 " 4	2 " 3 1 " 0	
68°	57°		'000	'000			11 at 10 4 " 8 3 " 7 1 " 6	6 at 10 1 " 9 3 " 8 6 " 7	21
84°	73°		4'	4'			4 " 5 1 " 4 2 " 3 3 " 2 2 " 0	1 " 6 5 " 4 2 " 3 5 " 2 2 " 0	
74°98'	68°29'		'758	1°11'			11 at 10 1 " 9 6 " 8 2 " 7 1 " 6	10 at 10 5 " 8 5 " 7 3 " 6 1 " 5	16
67°	59°		'000	'000			1 " 5 1 " 4 1 " 3 1 " 2 5 " 0	1 " 3 3 " 2 2 " 0	
91°	83°		2°5'	3°			3 at 10 9 " 8 5 " 7 2 " 6 3 " 5 2 " 4 3 " 3 1 " 2 1 " 1 1 " 0	3 at 10 2 " 9 5 " 8 3 " 7 3 " 6 2 " 5 6 " 4 4 " 3 1 " 2 1 " 1 1 " 0	21
75°6'	74°05'		'425	'783			1 " 5 1 " 4 1 " 3 1 " 2 5 " 0	1 " 3 2 " 2 2 " 0	
69°	66°		'000	'000			1 at 10 1 " 9 6 " 8 3 " 7 2 " 6 2 " 5 7 " 4 5 " 3 3 " 2 1 " 1 1 " 0	5 at 10 2 " 8 3 " 7 1 " 6 3 " 5 8 " 4 6 " 3 1 " 2 1 " 1 1 " 0	21
94°	88°		7°	3°			1 " 9 2 " 8 3 " 7 1 " 6 8 " 4 6 " 3 1 " 2 1 " 1 1 " 0	1 " 8 3 " 7 3 " 5 8 " 4 6 " 3 1 " 2 1 " 1 1 " 0	
85°64'	79°24'	'427	'895			11 at 10 2 " 9 5 " 8 1 " 7 4 " 6 2 " 5 3 " 4 2 " 3	11 at 10 1 " 9 3 " 8 4 " 7 2 " 6 1 " 5 3 " 4 1 " 3 1 " 2	17	
76°	74°	'000	'000			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0		
90°	88°	2°	3°			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0	25	
87°63'	77°79'	'580	'870			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0		
76°	70°	'000	'000			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0		
93°	79°	2°	2°			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0		
81°60'	71°80'	1°272	'4	'566			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0	
71°	66°	'000	'000	'000			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0	
86°	70°	1°1'	2°	4°			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0	
77°26'	62°13'	'475	'838	1°			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0	
67°	50°	'000	'000	'000			3 at 10 2 " 9 1 " 8 2 " 6 3 " 5 7 " 4 6 " 3 1 " 2 1 " 1 4 " 0	4 at 10 5 " 9 1 " 8 2 " 7 3 " 6 1 " 5 5 " 4 1 " 3 4 " 2 5 " 0	

DATE.	BAROMETER.		THERMOMETER.				HYGROMETER.					
			Dry Bulb.		Wet Bulb.		Temperature of Dew-point computed.		Elastic force of Vapour.		Humidity 0-1.	
	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.
NOVEMBER:—	inches.	inches.	° F.	° F.	° F.	° F.	° F.	° F.				
Max.....	30'57	30'44	69'	77'	67'	73'	65'4	70'2	'625	'733	'882	'796
Mean.....	30'29	30'21	60'7	64'3	58'	61'1	55'57	58'22	'441	'485	'830	'805
Min.....	30'01	29'92	49'	52'	46'	49'	42'7	46'0	.274	'310	'789	'799
DECEMBER:—												
Max.....	30'44	30'50	62'	71'	61'	69'	60'1	67'4	'519	'670	'935	'883
Mean.....	30'21	30'20	52'2	56'7	50'1	54'2	48'	51'70	'335	'384	'856	'834
Min.....	29'99	29'86	41'	43'	38'	41'	34'1	38'6	'196	'234	'760	'844
1878.												
JANUARY:—												
Max.....	30'62	30'53	53'3	62'	53'	58'	52'70	54'4	'402	'423	'987	'850
Mean.....	30'70	30'57	40'45	44'79	38'54	41'98	31'45	38'60	'176	'234	'701	'790
Min.....	29'99	29'79	29'	32'	28'	31'	24'4	28'7	'126	'154	'738	'762
FEBRUARY:—												
Max.....	30'57	30'51	53'	56'	52'	55'	51'	54'	'374	'417	'930	'928
Mean.....	30'33	30'29	43'27	45'94	41'88	43'63	40'21	40'85	'249	'255	'896	'805
Min.....	30'07	29'99	36'	39'	33'	37'	28'5	34'4	'153	'199	'721	'642

Instruments placed in verandah facing S. on Conquest Island.

#### REMARKS.

Dew-point, Elastic force of Vapour, and Humidity computed from the Greenwich factors published in 1856.  
 The readings for April commenced on the afternoon of the 19th, those for February ceased for all the instruments except Barometer on the 18th, and those of the latter on the 13th when it was unfortunately broken.  
 The following record of observations made during the typhoon of the 3rd July 1877, may be of interest:—  
 At 9.30 A.M. the force of wind was estimated at 7 of the Naval Scale, from which hour the storm increased up to some time between 11 and 12 o'clock noon, when it began to moderate, and by 3.30 P.M. had quite abated. The wind, which kept steadily at East during continuance of the gale, had come round to South at 3.30 P.M. The following is the note made for the day:—"Forenoon blowing terrifi-  
 "and rain coming down in torrents; about noon began to moderate and clear off, afterwards gentle breeze with drizzling rain."

#### Readings of Barometer, July 3rd 1877.

Inches.	Inches.	Inches.	Inches.
6 A.M. 29'65	10 A.M. 29'34	1 P.M. 29'40	5 P.M. 29'55
7 " 29'61	11 " 29'20	2 " 29'45	6 " 29'64
8 " 29'55	11.30 " 29'10	3 " 29'50	7 " 29'70
9 " 29'47	Noon 29'22	4 " 29'52	8 " 29'75

SELF-REGISTERING THERMOMETERS.		RAIN IN 24 HOURS.	WIND.				CLOUDS.		No. of days in each month on which no rain or snow fell.
Maximum in Air.	Minimum in Air.		Force as per Naval Scale.		Summary of Direction.		0-10.		
9.30 A.M.	9.30 A.M.	Inches.	9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.	9.30 A.M.	3.30 P.M.	
° F.	° F.								
82°	66°	.3	4'	4'			13 at 10 3 " 9 1 " 8 6 " 7 3 " 5 2 " 4 1 " 3 1 " 0	16 at 10 2 " 9 2 " 8 2 " 7 1 " 5 3 " 4 2 " 3 1 " 2 1 " 1	17
67°57	56°57	.18	1'333	1'366			11 at 10 4 " 9 3 " 8 4 " 7 2 " 6 1 " 5 2 " 3 4 " 0	13 at 10 2 " 9 5 " 8 1 " 7 3 " 5 1 " 4 2 " 3 2 " 2 1 " 1 1 " 0	19
52°	48°	.000	.000	.000			12 at 10 5 " 8 3 " 7 3 " 4 1 " 5 4 " 3 1 " 2 2 " 0	17 at 10 5 " 8 1 " 7 3 " 4 1 " 5 1 " 3 1 " 1 2 " 0	22
73°	59°	1.1	5'	5'			15 at 10 6 " 8 4 " 7 2 " 0	14 at 10 2 " 9 8 " 8 1 " 7 1 " 6 1 " 3 1 " 0	16
57°47	47°10	.428	1'310	1'379					
47°5	36°	.000	.000	.000					
54°	51°5	.5	4'	4'					
44°48	36°88	.242	1'709	1'903					
35°	27°	.000	.000	.000					
68°	46°5	.9	4'	4'					
48°47	38°91	.46	.875	1'125					
41°5	35°	.000	.000	.000					

Rain Guage 4 feet above ground.

Naval Scale for estimating force of wind, from Col. Sir H. JAMES's *Instructions*; app. p. 31.

0 Denotes calm.			Pressure in lb. per sq. ft.
1 Light air just sufficient to give steerage way.			1/4
2 Light breeze	with which a well-conditioned man-of-war under all sail and clean full would go in smooth water from	1 to 2 knots	1
3 Gentle breeze		3 to 4 knots	2 1/4
4 Moderate breeze		5 to 6 knots	4
5 Fresh breeze	in which the same ship could just carry close hauled	Royals, etc.	6 1/4
6 Stormy breeze		Single-reefs and top-gallant sails	9
7 Moderate gale		Double-reefs, jib, etc.	12 1/4
8 Fresh gale		Triple-reefs, courses, etc.	16
9 Strong gale	with which she could only bear	Close-reefs and courses	20 1/4
10 Whole gale		Close-reefed main topsail and reefed foresail.	25
11 Storm	with which she would be reduced to	Storm stay-sails	30 1/4
12 Hurricane		No canvas	36

## NOTES ON THE DISEASES affecting EUROPEAN RESIDENTS IN JAPAN,

UPON THE BASIS OF ALL AVAILABLE STATISTICS.

BY STUART ELDRIDGE, M.D.,

*One of the Surgeons of the General Hospital of Yokohama, Secretary of the  
Board of Health of Yokohama.*

THE following notes upon the medical history and prevailing diseases of the foreign community of Yokohama are based,

1st, upon the records of the General Hospital of Yokohama from March 20th 1868 to December 31st 1877, a period of nearly ten years ;

2nd, upon the mortuary register of the foreign cemetery for the seven years from January 1st 1871 to December 31st 1877 ;

3rd, upon the experience and opinions of the resident physicians of the settlement, as recorded in the journals of the local medical society, and as personally communicated to the writer.

In any locality, the value of carefully compiled statistics of disease can hardly be overestimated, and such compilations are of even more than ordinary importance under circumstances such as those surrounding the foreign population of Yokohama ; for, as yet, the diseases of the country have been but little studied, and the effects of the climate upon the European constitution are but imperfectly understood. In matters medical, as in other respects, Japan is too often confounded with the more tropical east, as witness the extra premia charged for life insurance by nearly all the prominent companies of Europe and America ; an imposition apparently based upon the unwarranted assumption that a residence in Japan involves the usual extra risks of tropical climates.

The statistics given, and the opinions expressed, unless otherwise specifically stated, apply only to the residents of Yokohama of foreign birth or parentage. A certain number of Japanese and Eurasian children have been interred in the foreign cemetery, but, as by far the larger proportion of the burials of this class are entered without the usual statement of "cause of death," these cases are included among the deaths unclassified, and so do not enter into the calculations. A very small number of Japanese have been admitted to the hospital also, but generally for injuries.

The facts that of the patients admitted to hospital in Yokohama a very large number are seafaring men or people temporarily resident, and that women or children are but rarely treated in the institution, must be considered in estimating the value of the statistics of the hospital, as bearing upon questions as to the health of permanent residents. Nevertheless, so many of the permanent residents do find their way to hospital when afflicted by serious diseases, more espe-

cially those of an epidemic or infectious nature, that, covering as they do a long period, the records of the hospital, on the whole, pretty fairly indicate the nature, severity and frequency of the graver diseases which occur in the community.

In comparing the present statistics with those of other hospitals or places, it must also be remembered that here as elsewhere the wealthier classes rarely enter hospital,\* and that with few exceptions the foreign residents of Yokohama are in the prime of life, are able to live well and easily, and, in many respects, so far as their immediate surroundings are concerned are in exceptionally good hygienic position.

In the accompanying tables of the occurrence of important diseases, non-residents have been, as carefully as is possible, distinguished from residents. In the table for the time antecedent to that at which the writer was appointed to the hospital, namely, from March 20th 1868 to February 12th 1875, this separation is only approximate, as records exact in this respect were not preserved. Still it is believed that the figures as given are very close to the actual facts, most careful inquiry having been made in all doubtful cases. Of all patients admitted to the hospital in 1875, 1876 and 1877, residents furnished 32.96 per cent, and non-residents 67.03 per cent. As nearly as can be ascertained the proportion of the two classes for the preceding seven years was about the same, so that it may be assumed that of the admissions for all causes during the past ten years, two-thirds were those of non-residents. For the correctness of the statistics covering the period from February 13th 1875 to December 31st 1877, the writer can vouch. Cases from Tokio have been considered as resident; these are but few in number, and it has not seemed essential to separate them from those of Yokohama. In reference to the question of residence as affecting the liability to certain diseases, it must be remembered that of those now considered as residents many before removing to Yokohama have lived for a time in the more tropical east, as India or Southern China.

In considering the statistics of the cemetery it must not be forgotten that the record applies not only to residents, but to seamen afloat, to the patients of the naval hospitals, to those of the General Hospital, and, for a portion of the time covered, to the English and French garrisons formerly maintained here. An attempt was made to separate residents from non-residents in the statistics from this source, but a general classification of this character was found to be impracticable, as the register is very deficient in detail. With reference to certain diseases, however, a distinction as to residence has been made by counting only those cases in which the fact of residence or non-residence is unmistakably stated.

I have been unable to find any record of the operation of the hospital prior to 1868, while in the books of the cemetery the cause of death is not stated before 1871. This to explain the terms of years for which the tables are compiled.

In the report of the hospital for 1875 to 1877 the nomenclature and arrangement recommended by the Committee appointed by the Royal College of Physicians of England have been adopted. In the table for preceding years the diseases are arranged simply in alphabetical

\* Perhaps rather a larger number of the higher classes of the community are treated in hospital in Yokohama than is the case in most other localities. During the last six years the proportion of patients of the first and second classes, paying three dollars and four dollars per diem respectively, was twenty-three per cent. of all admissions, most of the patients of these grades being permanent residents.

sequence, as it was found impossible to reduce the entries to a uniform nomenclature. There is little difficulty, however, in connecting the two sets of statistics, as the more important diseases are similarly entered in both.

A consideration, *seriatim*, of each separate disease appearing in the tables would be both tedious and unprofitable. By far the larger number of diseases recorded are such as exist everywhere and at all times, and can scarcely be supposed to be caused or affected by any circumstances peculiar to Yokohama or Japan. Certain of the more important diseases, especially such as are generally understood to be caused or modified by climatic influences, habits of life or specific infection, require a more careful consideration, and will be taken up in the order in which they occur in the tabulation for 1875 to 1877.

During the ten years which are included in the statistics of the hospital, the total number of admissions for all causes was 1,756, and the mortality during the same period 222 or 12.6 per cent. of the admissions.

The cemetery record registers 601 deaths during the seven years 1871 to 1877 inclusive, but as of these 601 entries 112 are without statement as to the cause of death, but 489 enter into the calculations.

SMALL-POX.—The records of the hospital show that in one year only were there no admissions for small-pox. This was the year 1869, but 1872, 1873 and 1876 were practically years of exemption, as the few cases admitted were those of non-residents who acquired the disease elsewhere than in Yokohama, generally in China.

The winter of 1870-1871 was marked by an epidemic of severity. During 1870, 19.5 per cent. of the patients admitted suffered from small-pox, and the mortality of these cases was 26.4 per cent., while in 1871 the admissions for this cause amounted to 28.3 per cent. of the total treated during the year, and the mortality was 21.8 per cent. of those attacked.

An epidemic in 1874-1875 was much milder than that just mentioned both with regard to the number affected and the type of disease. Of the admissions during 1875, in which year most of the cases occurred, but 13.6 per cent. were for small-pox, and the percentage of deaths of those attacked 10.7 per cent. of the total treated, with a death rate among the affected of 19.6 per cent.

The record of the cemetery beginning only in 1871, it is impossible to deduce therefrom the total mortality of the epidemic of 1870-1871. In the latter year the deaths from small-pox were 26 in number or 20.6 per cent. of the total classified mortality of the year. In 1874-1875 the deaths ascribed to this cause are 12, or 8.8 per cent. of the total classified mortality of the two years.

Small-pox as met with in Japan presents no special features, and its malignancy is perhaps a little exaggerated by the preceding figures, for, of those attacked a considerable number are known to have been so broken down by dissipation or chronic disease as to fall easy victims to any acute malady. There is little doubt that the active measures pursued by the Government in reference to vaccination of the people, have accomplished much and will effect more in controlling the spread of variola.

MEASLES.—This disease has, at times, been severely epidemic among the natives, and the mortality great. Foreigners also have suffered to some extent, but the facts that in ten years there has been but one admission to hospital for this cause, the case occurring in 1869 and non-

fatal; and that the cemetery record for the seven years just past, includes but three deaths by measles, 0.6 of the classified mortality for the whole period, entirely agree with the experience of the local practitioners, which is, that when occurring in foreigners measles is a disease of but a mild type. Even among the natives the immense mortality which has been caused by this disease appears to have been due not so much to the virulent type of the malady as to the enormous number affected, in one epidemic amounting to nearly one half the entire population.

SCARLET FEVER.—If this disease ever exists in Japan, it has as yet made no appearance among foreign residents in anything approaching an epidemic form. Two cases are reported under this heading as having been admitted to hospital in the years 1868 and 1870. No death from this cause is noted in the mortuary record. The experience of the local practitioners includes but two other cases which were suspected to be scarlet fever, both occurring in the practice of the same physician, neither fatal, and both considered by the reporter as not beyond a doubt as to their character. Now, the diagnosis of mild, sporadic cases of scarlatina is confessedly difficult under any circumstances, while the disease is of so highly infectious a nature that it always tends to become epidemic, and rarely fails to do so; further, the disease, if not entirely unknown among the natives, is at least exceedingly rare,\* and is apparently but seldom met with in China. The cases above mentioned may have been scarlet fever, but it is by no means impossible that they may have been cases of any one of several other diseases known to occur here.

The first case noted in the hospital record was that of an American seaman recently arrived. Granting that this case was one of scarlet fever, it is not unlikely, in view of the portability and persistency of scarlatinal contagion, that the infection was brought from home in the man's shore clothing and that he himself fell the first and only victim. Of the second case mentioned in the hospital books, that of one of the few natives admitted for disease, the stay in hospital was so short as to prove that the disease whatever it was, was mild, while it is very improbable that of the few cases of natives admitted to the hospital one should be that of the only known occurrence of a generally epidemic disease.

But that we have so far escaped the ravages of scarlet fever affords no certain assurance of immunity in the future. A disease of the nature of that in question, depending upon a persistent, portable and intense contagion, is almost certain to reach us sooner or later, while the rapid increase in the number of children in proportion to the adults of the foreign community, is yearly rendering the circumstances more favourable for its propagation when once imported. If the theory of Dr. CARPENTER be correct, and decomposing blood furnishes the origin or nidus of scarlatinal infection, the comparative rarity of collections of this form of garbage in China and Japan may be connected with the non-occurrence of this fever; or, it may possibly be that existing influences of soil or climate are unfavourable to the development or propagation of the specific poison; but the relations of such conditions to the disease in question, if they exist, are so little understood

\* I cannot learn that scarlatina has been met with among the natives by any prominent practitioner of medicine, either native or foreign.

that it will be the part of wisdom to treat any suspicious case with exceptional precautions against the propagation of the malady.\*

**DENGUE.**—I can find no record of any epidemic of this disease, either among natives or foreigners. In the latter class I have recently seen one case which appeared to be mild dengue, while its occasional epidemic appearance in China renders it probable that it may be met with in Japan also.

**TYPHUS FEVER.**—This disease has been epidemic but once during the time covered by the statistics, namely in 1869-1870. A few cases are noted in 1871 also, since which time but two cases have been admitted to hospital, both clearly imported, the last in 1877. Typhus seems to have been more strictly confined to newly arrived non-residents than any other important disease noted in the records, save its congener typhoid. The epidemic, in fact, appears to have been almost limited to the shipping in harbour and to those recently landed therefrom. A single ship furnished 14 per cent. of all the cases of 1869-1870. Of 13 cases in 1869, entered as of non-residents, 12 appear to have been removed directly from the shipping, and of the 35 cases similarly entered in 1870, 32 were admitted from vessels in harbour. The disease then appears to have been that form of typhus formerly known as "ship fever," to have been propagated in the usual manner by overcrowding and bad hygiene, and to have had little or no connection with any circumstances peculiar to Yokohama, though at this time typhus was to a certain extent epidemic among the natives.

The admissions for typhus were, in 1869, 8.4 per cent. of the whole, with a mortality of 18.4 per cent.; in 1870, 12.1 per cent. of the total treated, with 26.2 per cent. of deaths; in 1871, 4.6 per cent. of all admitted, with a death rate of 33.3 per cent. For the ten years 1868 to 1877, the admissions for typhus were 4.3 per cent. of all received, with a mortality of 25.3 per cent. of those attacked.

The mortuary record which, it should be remembered, begins only in 1871, contains but four entries of death by typhus, 2 in 1871, 1 in 1872 and 1 in 1877 (the case mentioned above as admitted to hospital in this year), the deaths from this cause during the seven years being but 0.8 per cent. of the classified mortality.

The experience of the physicians at present resident in Yokohama is that typhus fever, since 1871, has been unknown in private practice among foreigners, and very rare among the natives, while prior to 1871, the disease, though occasionally met with, but very rarely occurred among the resident foreigners.

**TYPHOID FEVER.**—This disease appears to have moved almost *pari passu* with typhus. Two cases are noted in 1868, but in 1869 there were 31 admissions for this cause, or a percentage of 11.8 of the total treated. In 1870, the admissions for typhoid amounted to 15, or 4.3 per cent. of all received. The year 1869 was thus that during which most cases of typhoid occurred, while typhus was most severe in 1870. In 1871 but 4 cases, or 2 per cent. of the admissions, were of typhoid, while after this year the disease almost disappears from the record. In 1872 and 1873 there were no cases admitted; in 1874, 1875 and 1876, but one case each year; and in 1877 but

\* Since the above was written, I am informed by Dr. E. BAELZ of the Imperial Medical College, Tokio, that during the past two years he has met with nine (9) cases, unmistakably of scarlet fever, of which one proved fatal, all of the cases occurring in young Japanese between the ages of 15 and 25 years.

two cases; all the cases from 1874 to 1877 occurring in non-residents. As large a proportion of the typhoid cases were of non-residents as were those of typhus at the same period. Of the 24 non-resident cases noted in 1869, 23, and of the 13 non-resident cases of 1870, 10, (or 33 cases out of 37,) were removed from the shipping directly to the hospital; 11 of these cases, or 24 per cent. of all the cases of 1869-1870, coming from the unfortunate steamer which during the same years furnished 14 per cent. of the cases of typhus. It is difficult to understand this large preponderance of shipping cases except upon the supposition of contamination of their water supply, a supposition which is confirmed by the experience of the physicians then practising in Yokohama, which is to the effect that the faulty drainage, which was the rule in Yokohama prior to 1871, was directly accountable for the occurrence of typhoid in epidemic form, which was not uncommon, while the improvements of sewage and levelling since made, together with the system of almost daily removal of night-soil, have caused the disease to become very infrequent of late.

For the ten years, the cases of typhoid have formed 3·2 per cent. of the total admissions to hospital, and the mortality has been 7 per cent. of those attacked. It is probable that the greater number of the cases entered as "simple continued fever" were really abortive typhoid, but in the absence of definite knowledge of these cases, it would be manifestly unfair to include them as such.

The mortuary record gives 8 deaths by typhoid in 1871, 2 in 1872, 4 in 1873, 1 in 1876 and 3 in 1877, the total deaths from this cause during the seven years being 14, or 2·8 per cent. of the entire classed mortality.

**CEREBRO-SPINAL MENINGITIS.**—No record exists of the occurrence of this disease in Yokohama or its immediate neighbourhood. Native sources, however, give accounts of an epidemic in the interior, between Yokohama and Kioto, some years ago, which appears to have been a severe outbreak of cerebro-spinal meningitis.

**RELAPSING FEVER. YELLOW FEVER. PLAGUE.**—These diseases so far as known have not occurred in Japan.

**MALARIAL DISEASES.**—The hospital records, up to 1875, present in all but 20 cases of malarial disease, 2, or 10 per cent., of which occurred in residents, and 18, or 90 per cent., in non-residents. The same records from 1875 to 1877 note 31 cases of malarial disease, including 14 of malarial cachexia. Of these cases of cachexia, 11 were received from a single man-of-war which had been cruising in highly malarial regions far beyond the limits of Japan. Of the 31 cases from 1875 to 1877, 5, or 16·1 per cent., were of residents, and 26, or 83·8 per cent., were of non-residents. The percentage of admissions for malarial diseases during the entire ten years was 2·9 of all treated, while of the total number of cases of this character, residents furnished 13·7 per cent. On examining the tables it will be noticed that the increase in the number of admissions for malarial diseases, shown by the preceding figures, is largely due to the number received as suffering from malarial cachexia. Still, excluding all cases of the latter as the result of infection received outside of Yokohama, there has been during the three years just passed a positive though small increase in the number of admissions for the acuter forms of malarial poisoning.

Of the 51 cases admitted during the ten years but one was fatal. The cemetery books record but 4 cases of death by malarial diseases during seven years, or 0·8 per cent. of the total classified mortality during that period.

But neither the statistics of the hospital nor those of the cemetery can be considered as affording a true idea of the prevalence of malarial disease in Yokohama; further than that from the very small number of deaths ascribable to this cause, it may fairly be inferred that the severer forms of malarial disease are rare. This is true, and the fact explains the infrequency of resident admissions to hospital under this heading. The type of malarial disease in Yokohama is mild, generally yields readily to treatment, and so the sufferers but seldom enter hospital.

The medical practitioners of the settlement are unanimous in the opinion that malarial influences are manifested here in most irregular and often puzzling forms. Well marked and typical cases of remittent and intermittent fevers are infrequent, while periodic neuralgias, dumb agues and other marked forms of malarial poisoning are common. Isolated cases of the severe congestive form of malarial disease undoubtedly occur, but rarely of so violent a character as to be properly classed as "malignant" or "pernicious." A few cases resembling the so-called typho-malarial fever of WOODWARD have also been met with, the malarial element of the disease being unmistakably indicated. A marked increase in the number of cases of malarial affections has been noticed in private practice since the year 1871, when improvements of sewage, drainage, etc., with consequent excavation of the soil, began to be extensively carried on in Yokohama. It is probable that the drainage and levelling of the settlement, while it has much diminished the frequency of typhoid fever, has increased the number of cases of malarial troubles. It is not surprising that this should be so, for in temperate climates the disturbance of the soil is well recognized as a factor in the production of malarial disease even more powerful than are swamps and low-lying lands, when undisturbed. During the re-excavation of the canal, in the spring and summer of 1877, a marked increase in malarial disease was noticed in the neighbourhood of the works.

The manifestations of malarial poisoning in this locality are somewhat anomalous in respects other than the nature of the attack. All seasons seem almost equally favourable to their development, many cases occurring in the clear cold weather of midwinter; while certain portions of the elevated and airy Bluff are as subject to malaria as is the level and low-lying settlement. The topography of these insalubrious portions of the Bluff may, perhaps, to some extent explain this fact, for it is easily conceivable that favourably situated slopes and flanking valleys, with no considerable shrubbery intervening, may serve to conduct the emanations of the saturated bottom lands from a lower to a higher level, under the influence of prevailing winds.

DIPHtherITIS.—In a discussion at a meeting of the Medical Society of Yokohama during the winter of 1876, it was found that a majority of the members not only had failed to meet with cases of diphtheria, but doubted its existence in Japan. A few isolated cases were reported as having occurred here and in Kobe, which bore a strong resemblance to the disease in question, but in which the diagnosis between diphtheria and croup was not, in the minds of most of the members, entirely beyond a doubt.

The opinion of the majority of the medical men of Yokohama, as above stated, applied at that time to natives as well as to foreign residents. Diphtheritis was certainly of exceptional rarity up to 1876. The spring of 1877, however, was marked by an epidemic of diphtheria both in Yokohama and Tokio; in neither place very extensive, and, with but few exceptions,

confined to the native population. During the present winter also, a few cases which were certainly diphtheritis have been met with in Yokohama.

That medical men should speak with some hesitation on the question of the diagnosis between true croup and diphtheritis, in isolated cases, is not strange, when it is remembered that in the absence of epidemic character and proof of contagion, the distinction of cases occurring in children is always considered somewhat uncertain, and that the two diseases often resemble each other so closely that some very respectable authorities consider them as identical. The element of diagnosis which was wanting in 1876, namely, the indication of epidemic and contagious nature, has now been supplied, and diphtheritis must henceforward be considered one of the diseases to which residents of Yokohama are liable.\*

The hospital records contain no case classed under this heading. The mortuary statistics ascribe three deaths to diphtheritis, one occurring in 1874, one in 1875 and one in 1877, or 0.6 of the total classified mortality for the seven years included in the record.

**MALIGNANT CHOLERA (Asiatic Cholera).**—This disease has occurred in Yokohama but in one year during the period covered by the statistics upon which these notes are based. The epidemic of 1877, beginning at a comparatively late and cool season, was not very severe either as regards natives or foreigners. Of the latter, but eighteen in all are reported by the Board of Health as having suffered from this disease, including two cases in which the malady did not appear until some days after leaving the port of Yokohama, which proved fatal, and having been buried at sea, failed to appear in the mortuary record.

Of the admissions to hospital in 1877, 3 cases, or 2 per cent. of the admissions of the year, were for malignant cholera, and are included in the 18 cases above mentioned. Of the 3 cases 2 died. The mortuary record notes 7 interments under the head of cholera in 1877, to which add the 2 cases buried at sea, and the mortality of foreigners during the epidemic is shown to have been 50 per cent. of those attacked.

The epidemic of cholera which occurred in 1861-62 was far more severe among natives than was that of 1877, but, so far as I have been able to learn, very few foreigners at that time suffered from the disease.

In view of the strangely irregular behaviour of this disease in different epidemics, nothing can be predicted as to the probable course of cholera in the future, but the absence of any effective quarantine system, the necessarily close relations maintained by foreigners with the native population, and the fact that in the past cholera has often leaped all barriers of social position or even of superior hygienic surroundings, render it possible that whenever cholera exists in the empire, foreigners may suffer in due proportion to the natives.

**MALIGNANT PUSTULE.**—This disease appears but once in the hospital record, and the case was not fatal; while in the mortuary register, 1871 to 1877, one death is ascribed to this cause. The disease, then, though occasionally seen in natives is certainly rare among foreigners. The fatal case noted in the books of the cemetery was that of a steward, an occupation which after that of butcher or tanner is most likely to expose to the handling of diseased flesh, one of the chief modes of infection.

\* Since the above was written, accounts have been received of epidemics of diphtheritis at more than one point in the interior.

**RHEUMATISM.**—Although the records both of the hospital and the cemetery deal largely with a class (seamen) who, from the nature of their occupation, are especially subject to the action of the more common excitants of acute articular rheumatism, there are but few entries in either for this cause. In the consideration of this disease, however, the statistics of the hospital prior to 1875 are useless, as no distinction is made in the record as between acute and chronic cases, or between the affection of the muscles and that of the joints. Of the total number of cases of rheumatic disease recorded before 1875, but 1·5 per cent. were fatal, which is about one-third of the usual ratio of mortality in the acute articular form. From 1875 to 1877 but 3 cases, or 0·6 per cent. of the total admissions, were of acute articular rheumatism, and of these but one case occurred to a resident.

The deaths ascribed to this cause in the seven years covered by the mortuary record are but two in number, one in 1872 and one in 1873, or 0·4 per cent. of the classified mortality for the whole term; nor in these cases is it stated whether the case was acute or chronic.

Of chronic and purely muscular rheumatism the occurrence is far more frequent than of the acute joint affection. The admissions to hospital for these causes during 1875, 1876 and 1877, amounted to 2·9 per cent. of the total treated.

The opinion of the resident medical profession appears to be in accordance with the above statistics, being to the effect that acute articular rheumatism is very uncommon either among natives or foreigners, while the milder and less important rheumatic affections are not infrequent. The connection of these facts with the ratio of occurrence of heart disease will be noted farther on.

**GOUT.**—But two cases of this disease, or 0·1 per cent. of all the admissions for the ten years, are to be found in the records of the hospital. No death is ascribed to gout in the statistics of either hospital or cemetery. It is the experience of private practice that this disease is found in about the same proportion and among the same classes of the community here as elsewhere.

**SYPHILIS.**—This, one of the most frequent diseases in all seaport towns, seems to have become somewhat less common in Yokohama since the Government undertook the medical supervision of prostitution. In 1868 the percentage of cases admitted to hospital for syphilis was 24·4; in the latter part of that year the present system of inspection and control was inaugurated, and the ratio was slightly diminished in 1869, being 21·0 per cent. In 1870 and 1871, by which time the control system was in full operation, the proportion was reduced to 9·8 and 6·7 per cent. of all received. In 1872 the percentage of admissions for this cause rose to 15·8 per cent., dropped in 1873 to 6·9, and since the latter year has ranged between 11 and 12 per cent. of all admissions. It will thus be seen that there has been upon the whole a marked improvement since the establishment of intelligent medical supervision of the native brothels, but that this improvement was greatest within the years immediately succeeding upon the inauguration of the new system. The increase in the admissions for syphilis after 1871 is easily explainable in accordance with the universal experience, that where governmental supervision of recognized and registered prostitutes is most rigid, secret and therefore far more dangerous prostitution increases steadily in proportion to the effectiveness of the control of the registered houses. Such secret prostitution is becoming more common in Yokohama year by year. It is carried on in connection with sailors' taverns to

a considerable extent, while one of the most travelled thoroughfares between the settlement and the Bluff is lined with unlicensed and uncontrolled brothels.

It is probable, however, that the bare statistics give a somewhat exaggerated idea as to the amount of syphilitic disease actually acquired in Yokohama; for, during 1875, 1876 and 1877, in which period the cases have been noted with reference to the stage of the disease at which the patients were admitted, the percentage of inveterate (or tertiary) cases is 23·2 of the whole number admitted for this cause, while a considerable proportion of the cases entered as secondary, were of the later manifestations of this so-called period, and therefore, as well as the inveterate cases, when occurring in non-residents, presumably the result of infection acquired months or years before entering the hospital, and elsewhere than in Yokohama.

There is a widely entertained notion that syphilis, as it exists in Japan, is of a peculiarly virulent and severe type. This is decidedly a mistake. It is I think generally acknowledged by the medical profession in Japan, that syphilis among the natives is of an exceptionally mild form, and that, considering the number of cases, the more severe and deeper lesions of the disease are rare. This comparative immunity from the graver effects of the venereal poison is somewhat paradoxically believed to be due, at least in part, to the long continued general and unrestrained diffusion of the disease. It is as though the blood of the nation, either directly or by inheritance has become more or less infected by the poison, and this, in compliance with a well known law applying to most infectious diseases, if it does not prevent the contraction of new infection by the individual, at least modifies the effects of the contagion.

Similar observations have been made in other countries in which syphilis has been allowed to run riot, more especially in Portugal, where the comparative immunity of the natives was noticed as long ago as the Peninsular war.

But the fact that the disease is of a mild type in the natives by no means ensures that it will be trifling when acquired from them by a foreigner; and it is undoubtedly and as a rule more severe in the comparatively pure-blooded European than in the already more or less syphilized native. Still, even among foreigners the disease is neither more severe nor less amenable to treatment than when occurring in Europe or America.

LEPROSY.—I have been unable to learn of any occurrence of this disease in Europeans or Americans, in which the malady took origin in Japan.

PHTHISIS PULMONALIS.—The occurrence of phthisis among the hospital patients has not been frequent, the total admissions for this cause during the ten years having formed but 3·0 per cent. of the whole number received. Of the cases, 66·6 per cent. were of non-residents and 33·3 per cent. were residents, a proportion about equal to that of the two classes of admissions as a whole. Deducting all the cases of non-residents as presumably those in which the disease was acquired out of Yokohama, a perfectly justifiable assumption in view of the chronic nature of the malady and the fact that it is only in its later stages that the refuge of a hospital is sought, we have for the ten years and among residents a ratio of admissions for phthisis of but 1·0 per cent.

But an examination of the mortuary register will correct the too favourable impression produced by the foregoing statistics; for we find that of the classified mortality from 1871 to 1877, 11·4 per cent., is ascribed to phthisis, a proportion slightly beyond the average for the temperate zone, which is estimated as 10·0 per cent. in all deaths. Of the 56 cases of death by

phthisis, I have been able to determine as to the residence or non-residence of 48, and of these cases 50 per cent. were those of residents of Yokohama or Tokio.

**BERIBERI.**—This disease, the “kakke” of the Japanese, though both common and fatal among the natives, has but very rarely attacked foreign residents. No cases are to be found in the records of either hospital or cemetery, and the two or three cases reported as having occurred in private practice appear to have been of the mildest form.

As kakke has recently been discussed by several competent writers, among others by Drs. HOFFMAN and ANDERSON of Tokio, and as an exhaustive article upon the subject will soon be published by an authority of long and extensive experience, I will simply place upon record in the briefest form my conviction that the disease in question is exactly identical with the beriberi of India and elsewhere, that it is due to a specific poison, probably allied to malaria, that this poison primarily affects the nervous centres, all other symptoms than those of nerve disturbance being dependent upon this impression on the nervous system, and that exposure, bad food, over-work, lack of iron in the system, etc., all of which have been held responsible for the disease, serve only as exciting, never as primary causes.

In these respects I have modified the opinions which I formerly held, wider experience and study having convinced me that no ordinary and generally known cause of disease will account for the phenomena of beriberi, but I claim no originality for my views, as they are identical with those of others of greater experience than myself.

**DISEASES OF THE NERVOUS SYSTEM.**—Of the graver organic affections of the nervous system, excluding those directly and unmistakably produced by alcoholism, and those cases entered simply as “paralysis” or “epilepsy,” without further remark, as being of too indefinite a character, and also deducting cases of sunstroke, which will be considered separately, we find reported from 1868 to 1877, as having entered hospital:—

Of cerebral congestion, inflammation, effusion, hæmorrhage, softening and sclerosis, 19 cases, of which residents appear to have furnished 12, and non-residents 7 cases, or a percentage of diseases of the above classes amounting to 1·1 of the total treated, resident cases being 63·1 per cent. of the whole.

The mortuary record, under the titles, *Cerebral Disease, Congestion, Inflammation, Meningitis, Softening, Abscess, Hæmorrhage* and *Effusion*, notes 39 deaths from 1871 to 1877, or 7·9 per cent. of the total classified mortality; hæmorrhage and effusion, or the various forms of apoplexy, constituting 41 per cent. of the whole, and 75 per cent. of the cases occurring in residents.

Of the various forms of insanity, including several cases of well marked dipsomania, 25 cases in all were admitted from 1868 to 1877, or 1·4 per cent. of all received, 17 of these cases, or 68 per cent. of the whole, occurring in residents. The books of the cemetery contain one entry of death by “acute mania,” the case being that of a resident.

Of the 19 cases of cerebral disease and insanity admitted to hospital, 1875 to 1877, my personal knowledge permits me to assign the probable cause of 16, as follow:—

Cerebral Congestion, caused by alcoholism . . . . .	2
„ Hæmorrhage, „ „ „ . . . . .	1
„ Softening, „ „ „ . . . . .	3
„ „ probably due to injury . . . . .	1

Cerebral Sclerosis; first symptoms appeared after great business trouble before coming to Japan . . . . .	1
Mania, due to alcoholism . . . . .	1
Monomania, " " " . . . . .	3
" case of a hard drinker, but disease appeared under circumstances of exceptional hardship . . . . .	1
Melancholia, apparently from alcoholism . . . . .	1
" from fright. . . . .	1
Progressive Paralysis of the Insane, apparently excited by great business trouble . . . . .	1

It will be seen that of the foregoing 16 cases, 11, and perhaps 12, cases are ascribable to alcohol, and of the cases occurring anterior to 1875, it is probable that about the same proportion were due to that poison, as the histories of a considerable number of the cases offered evidence to that effect.

SUNSTROKE.—The hospital register records three non-fatal cases of this accident, or 0.2 per cent. of the total admissions.

The mortuary statistics ascribe to this cause 6 deaths, or a percentage of 1.2 of the total classified mortality. All of these cases were those of soldiers of the garrisons formerly stationed in Yokohama, and, of the six, four occurred on the same day in 1871. It is evident that sunstroke to a grave extent is rare in the foreign community of Yokohama, the experience of private practice being in perfect accord with this deduction from the statistics.

The writer has observed certain affections of the nervous system which are apparently due to the occupation of tasting tea, in some cases amounting to grave disturbance of the cerebral functions. The number of cases as yet collected is, however, so small, that he is not prepared to make any specific statements, but begs to direct the attention of the medical men of Japan and China to this subject, believing it to be one of some importance.

DISEASES OF THE EYE.—Under the very general title "Ophthalmia," 7 cases are entered in the report of the hospital, 1868 to 1875. Of the 6 cases of disease of the eye admitted from 1875 to 1877, 2 were of catarrhal conjunctivitis, 1 a severe case of rheumatic irido-choroiditis, the remaining 3 were native cases admitted for operation.

It is perhaps the case that, as in common with most eastern peoples, the Japanese suffer severely from purulent conjunctivitis, a contagious affection, foreigners residing among them are somewhat more exposed to the contraction of this form of disease here, than in most parts of Europe and America; but it is rarely met with in this class. There is a history of at least one tolerably severe and general epidemic of catarrhal conjunctivitis among foreign residents, some years ago, but with these exceptions, if exceptions they may be considered, foreigners in Yokohama appear to suffer from diseases of the eye in no unusual degree.

DISEASES OF THE HEART.—For diseases of the heart, I can present no reliable statistics as to residence or non-residence, prior to 1875, neither would such a separation be of much value in the case of diseases which are so insidious in approach and chronic in course, and in which,

as in the case of phthisis, the patient as a rule seeks hospital only in the later stages of his malady; unless such separation were founded upon personal knowledge of the history of each case for a considerable period before entering hospital. Of the six cases of heart disease entered from 1875 to 1877, but one appeared to have originated in Yokohama; this being a case of pericarditis, in which most careful investigation failed to show any constitutional cause for the local trouble. For the whole ten years covered by the tables, the admissions for heart disease of all varieties amount to 1·1 per cent. of the cases received; the mortality of this class having been 35 per cent. This proportion of admissions certainly indicates that heart diseases are rather infrequent here. The experience of private practice is in this respect in perfect harmony with that of the hospital surgeons; and it might perhaps have been predicted that such would be the case from the great rarity of acute articular rheumatism, the most prolific cause of heart trouble.

At first view, the statistics of the cemetery appear, to some extent, to contradict the foregoing conclusions, for in seven years there are 27 deaths ascribed to "heart disease," or 5·5 per cent. of the total classified mortality. It must, however, be remembered that "heart disease" is a convenient cause to which to ascribe sudden death, but that, unless the diagnosis is confirmed by *postmortem* examination or previous knowledge of the case, it is a very uncertain one. The fact that, as shown below, aneurism is proved to be of frequent occurrence in Yokohama, should be considered in this connection. A careful examination of each entry in the mortuary record has convinced me that at least one-half of the cases entered as heart disease occurred in transient visitors to Yokohama.

ANEURISM.—As exhibiting the relative frequency of the more important, because internal aneurisms, the statistics of the hospital are of but little avail. Unfortunately in a large proportion of such cases everywhere, the diagnosis is only made at the *postmortem* examination. From 1868 to 1875, 3 cases were admitted for this cause, whether of residents or non-residents cannot be determined. From 1875 to 1877, 4 cases of aneurism were received, of which but one was that of a resident. The total number of admissions for this cause during the ten years forms 0·4 per cent. of all cases.

The mortuary record, 1871 to 1877, registers 20 deaths as due to aneurism, or 4·1 per cent. of the total classified mortality. By careful examination of each recorded case, I find that of these 20 deaths, 16 were those of undoubted residents as distinguished from travellers, soldiers, or seamen of the navy or non-local merchant service. Of these 16 cases, 10 occurred within the three years just passed, a fact which leads to the suspicion that length of residence may be connected with the causation of the disease. In most cases the diagnosis was made or confirmed by an autopsy.

It appears from the foregoing that aneurism is a comparatively common cause of death in Yokohama, and I believe that the same is true of the China ports. The experience of the local practitioners of medicine is in accordance with such a deduction from the statistics. As *post-mortem* examinations of Japanese are but very rarely obtained, it is as yet impossible to speak as to the frequency or otherwise of this disease among the natives. I have seen a considerable number of cases in a very limited native practice, and have heard of others met with by my colleagues.

How much of the prevalence of this disease is due to the free living and steady spirit-drinking which formerly, more than now, was the rule in the East, how much to syphilis, and how much to climatic or other little understood causes, it is, until the subject has been more exactly studied, impossible to say. In view of recent investigations which have proved that, in China, dogs frequently suffer from aneurisms apparently due to the presence of a minute worm, (*Filaria*) within the system, and that men also suffer from several diseases traceable to allied species, Dr. P. MANSON of Amoy has suggested that the prevalence of aneurism in the human subject, in the East, may possibly be due to an animal parasite.\* This, however, can only be taken as a suggestion calling for further and minute investigation.

PNEUMONITIS, BRONCHITIS AND PLEURITIS.—The admissions to hospital for these three causes combined, during ten years, amount to 3 per cent. of the total treated, the ratio of the three diseases, and their respective death rates being as follows:—

Pneumonitis.....	1.1	per cent.	of all admitted,	with	50.0	per cent.	deaths.
Bronchitis.....	1.5	"	"	"	15.4	"	"
Pleuritis .....	0.4	"	"	"	no	deaths.	

The highest percentage of admissions in any one year, for the three diseases taken together, was 6.3. The tables show a steady and remarkably uniform increase in the admissions for these causes up to 1874, when the percentage drops, to begin a more rapid rise up to 1877. Examination of the meteorological records may possibly throw some light upon the causes of these variations.

The question of residence is of little importance in connection with diseases which like those under consideration, are acute in onset, of comparatively short course, and independent of any known infection. It would probably be fair to assume that of the cases recorded under these headings, nearly all originated in Yokohama.

The mortuary record gives the mortality from the three diseases as 7.15 per cent. of the total number of classified deaths; the ratio of pneumonitis being 3.4 per cent., that of bronchitis 2.8 per cent., and of pleuritis 0.8 per cent.; the larger number of the deaths ascribed to bronchitis being those of young infants. The proportion of deaths by pneumonitis here stated is considerably below the estimated average for the civilized world, which is given by JUERGENSEN, in ZIEMSEN'S *Cyclopadia*,† as about 6.6 per cent. of all deaths.

The experience of private practice is that pneumonitis, bronchitis and pleuritis, are certainly neither more frequent nor fatal here than in most parts of Europe and North America; that bronchitis is occasionally epidemic as influenza, but that, as yet, pneumonitis has made no appearance in epidemic form.

DYSENTERY AND DIARRHŒA.—The number of admissions for these two causes for the entire term was 6.4 per cent. of the total treated, dysentery furnishing 4.6 per cent. of all cases admitted, and diarrhœa 1.8 per cent. The mortality in hospital from these diseases during the same period was, from dysentery 19.7 per cent. of the cases, and for diarrhœa 3 per cent.

Of the cases of dysentery 90.1 per cent. were those of undoubted non-residents. For diarrhœa the statistics of residence cannot be given for the whole term, but from 1875 to 1877

\* *Customs Medical Reports*, xiii. 31.

† *American Translation*, v. 12.

the percentage of non-resident cases was 83·3 of all admissions for this cause. Of the non-resident cases of dysentery admitted under the observation of the writer, many were very severe, but the cases both of dysentery and diarrhoea, occurring in residents were, without exception, mild and of very short duration.

The mortuary register 1871 to 1877 gives the number of deaths by dysentery as 5·3 per cent., and by diarrhoea as 1·8 per cent. of the total classified mortality; or for the united percentage of the two diseases, 7·1. An examination of each case recorded in the books of the cemetery shows that of the 35 deaths ascribed to dysentery and diarrhoea 23 at least were those of non-residents, or a percentage of 65·7 non-residents to 34·3 residents.

The chart on page 80 shows a remarkable parallelism between the admissions to hospital for these causes, and the number of deaths by the same, as recorded at the cemetery. This is not due to a corresponding ratio of deaths in hospital, for the death rate from these causes in that institution has, for the seven years covered by the mortuary record, borne no proportionate relation to the number of admissions; no death having occurred in the hospital, either from diarrhoea or dysentery, during the three years just past. I am inclined to think that the correspondences between the ratio of admissions to hospital and of interments in the cemetery are due to a common cause, and that cause, one operating outside of Japan, namely, to the varying prevalence of the diseases in question upon the China coast during different years. The universal experience of the medical profession of Yokohama is so directly at variance with the supposition that more than a very small percentage of the fatal cases of dysentery and diarrhoea which are recorded, took origin here, that some such explanation as the above seems justifiable and necessary.

**DISEASES OF THE LIVER.**—In the report for 1868 to 1875 it is impossible to separate cases of hepatic disease probably due to climatic causes, or complicating other maladies, from those due to individual causes, such as excessive indulgence in spirituous liquors. In the table for 1875 to 1877 such distinction has been carefully made. It is, however, fair to assume that the number of cases of abscess of the liver will indicate approximately the amount of hepatic disease properly ascribable to climate. The total number of cases of liver abscess admitted during the ten years was but 5, or about 0·3 per cent. of all cases treated. Of this number 3 were those of undoubted non-residents, a fourth was probably of the same class, and the record of the fifth affords no indication by which to determine the question of residence. Of all the cases of hepatic disease admitted from 1875 to 1877 none occurred in residents, save such as were clearly traceable to individual causes.

The cemetery records, 1871 to 1877, give 15 deaths as due to diseases of the liver, or 3·0 per cent. of the classified mortality, about half of the number being ascribed to abscess, the rest simply to "liver disease." Of the 15 at least 8, or 53·3 per cent., of the cases of this class were undoubtedly of non-residents.

But very few cases of the more serious forms of hepatic trouble, exclusive of those directly owing to individual excesses, or those traceable to long residence or previous disease in China or more tropical countries, are, or have been, met with in private practice in Yokohama. The experience of the local profession is unanimous in this respect.

**DISEASES OF THE KIDNEY.**—During the ten years included in the statistics of the hospital these diseases, almost exclusively of those forms known by the generic title "Bright's disease,"

formed 1·3 per cent. of the total admissions, the mortality being 26 per cent. of the cases. Of the entire number, 8·7 per cent. occurred in residents, 91·3 per cent. in non-residents. From 1871 to 1877 the mortuary record ascribes to diseases of the kidney, 12 deaths, or 2·4 per cent. of the classified mortality; of these cases, 6, or 50 per cent., were undoubtedly of non-residents.

The late Dr. DALLISTON, in several of his published reports in connection with the hospital, called attention to the "frequent occurrence of Bright's disease, not only in hospital, but in the settlement generally." The statistics, a portion of which are of his own recording, hardly appear to warrant this remark.

The opinion of the medical men now practising here is that cases of the graver diseases of the kidney, which occur in Yokohama, are as a rule dependent upon individual causes, such as dissipation or old syphilitic infection, and that on the whole they are not of more frequent occurrence here than elsewhere.

**CALCULOUS DISEASES.**—These appear to be almost unknown in Yokohama either as among natives or foreigners. The hospital in ten years has admitted but one case, that of a non-resident; the records of the cemetery contain no cases, nor have they been met with in private practice, save when imported.

**DISEASES OF THE SKIN.**—From the extensive prevalence of certain parasitic and contagious skin diseases among the Japanese, foreign residents who are necessarily brought in contact with the natives, are somewhat more exposed to these maladies than is the case in the same classes of society in Europe or America. These diseases are, however, but seldom very serious, and generally yield readily to treatment. There is, however, a form of skin disease, occasionally affecting foreigners in Japan, which is so irritating, chronic and rebellious to treatment, that it merits special mention, the more as it appears to be dependent on climatic influences rather than on contagion. I allude to an affection of the nerves of the skin, unaccompanied by any true eruption, until irritated, or by one consisting merely of innumerable white and elevated points like goose flesh; which causes such intense and long-continued itching that the sufferer too often finds his life but a burden. Some cases yield to treatment with comparative ease, others, after continuing for months or years, are only benefited or cured by a change of climate, in but too many instances the disease reappearing upon the return of the patient to Japan, to endure until he again leaves its shores. This disease, from which natives also suffer, appears to the writer to be a form of true prurigo, a disease by no means common in Europe and America, but as a rule, when occurring, both chronic and obstinate.

**ALCOHOLISM, INCLUDING DELIRIUM TREMENS.**—In a report of the former surgeon of the hospital, dated June 1873, the community is congratulated on the progressive diminution in the number of admissions for the various forms of alcoholism. It is to be regretted that the statistics as they stand at present, afford no ground for such felicitation. There has been since 1875 a marked increase in the percentage of admissions for these causes. During the years 1872, 1873 and 1874, the proportion of admissions for alcoholism and delirium tremens was but 2·7 per cent. of all received; for 1875, 1876 and 1877, the ratio rises to 8 per cent., certainly a lamentable increase. A portion of this increment may possibly be due to the fact, to which I can testify from personal knowledge of cases, that of admissions for alcoholism, some, formerly entered under "general debility," would now receive their proper title. But this supposition will account for

but a small proportion of increase. Is it due to the depression of business which began to be severely felt in 1875?

The mortuary record ascribes 10 deaths, or 2 per cent. of the classified mortality, to alcoholism and delirium tremens, but these probably represent but a part of the mortality due to alcohol. The poison is one which but seldom kills in a direct manner, but sooner or later some important organ gives way under its influence, and the case is buried as one of brain, kidney or liver disease.

FISH POISONING.—The question of poisoning by fish is one of which little is definitely known. The study of the subject has been impeded by the fact that cases of severity have generally occurred in the less civilized portions of the globe, but still more by the as yet unexplained phenomenon that even among those species well known as dangerous, the poison appears to be confined to certain individual specimens, or, if more general in its distribution, at least to certain seasons of the year.

Many of our more common fish, for example the salmon, are well known to be unwholesome when, as it is phrased, "out of season," and any fish when stale may produce the usual symptoms caused by decomposed animal matter.

Rather alarming, but rarely fatal, consequences are sometimes produced both in Japanese and foreigners, by the use of the flesh of the katsuo and maguro (bonito and albacore?) They appear to be injurious only when very stale, but there are certain symptoms in these cases, for example the intense congestion of the head and face, which it is difficult to explain in accordance with the supposition that the ill effects of the fish are due only to decomposition.

I have met with one case in a foreigner in which the head symptoms were for a time quite serious.

The term fish poisoning, however, is not often used as applying to such cases as the foregoing, but in reference to those in which there is evidently an active poison existing in the fish, irrespective of its condition as to freshness or staleness, a poison sometimes so energetic and fatal as to be comparable only to the most deadly agents known to science.

Many theories have been offered in explanation of the toxicological action of certain fish. Some ascribe it to a "morbific element generated in the fish at certain times," a true if rather Bunsby-like elucidation of the question. Others ascribe it to a supposed idiosyncrasy of the sufferer. Idiosyncrasy is a convenient explanation of any little understood affection of the kind, but in this case the individual peculiarity certainly appertains rather to the fish than to its consumer. In the present state of our knowledge the facts do not admit of more than a probable explanation.

Cases of severe or fatal poisoning are recorded as having been caused by fish belonging to many and widely separated genera, and as having occurred in almost every portion of the globe, more especially within the torrid zone. PAPPENHEIM (*Handbuch der Sanitäts-Polizei*, i. 395) gives a list of more than forty species which are occasionally poisonous. Among the tribes which have furnished cases of poisoning are the mackerels (*Scomberidæ*), the perches (*Percidæ*), the porgies (*Sparidæ*), the herrings (*Clupeidæ*), the weavers (*Trachinidæ*), the becuna and barracouda (*Sphyrænidæ*), and, above all, a large number of species of the order *Pectognathi*, or fish characterized by the structure of the bones of the upper jaw, which, contrary to the rule,

are immovably united into one and often moulded into the form of teeth, thus giving to the mouths of some species a close resemblance to those of certain quadrupeds.

Of the six genera commonly given as belonging to the order *Pectognathi*, I have found five mentioned as occasionally poisonous, and it is with species of some of these genera that residents in Japan are most deeply concerned. It is to this order, genus *Tetrodon*, or four-toothed, that the several species known to the Japanese under the general title of *Fugu* belong, the often intensely poisonous qualities of which have long been recognized and, in consequence, their use at different times prohibited by law.

To a paper read before the German Asiatic Society of Japan, by Dr. A. GOERTZ of Yokohama, I am indebted for a description of the symptoms produced in three cases of *fugu* poisoning, one of which was that of a foreigner. In these three cases,—but one of which proved fatal, though the others were sufficiently alarming, and death apparently averted only by most energetic treatment—the symptoms were most rapid in onset, first appearing in one case within a quarter of an hour after eating the fish, in the others within half-an-hour and three-quarters of an hour respectively. All were first attacked by headache and nausea, which was quickly followed by great muscular weakness, failure of pulse and respiration, depression of temperature, and total insensibility, the whole indicating a most energetic action of the poison upon the great nervous centres, with special tendency toward the pneumogastric nerve. That the *fugu* poison is one which acts with great rapidity is shown by the facts that in the fatal case the patient had received an effective emetic within half an hour after partaking of the fish, and that in all three cases total insensibility occurred within one hour after the reception of the poison.

FONSSAGRIVES and LEROY DE MERICOURT (*Annales d'Hygiene*, Oct. 1861) and B. W. RICHARDSON (*Diseases of Modern Life*, p. 344) describe the symptoms produced by poisonous fish as closely corresponding to the above, while Dr. HOUGHTON of Sarawak (*Lancet*, 1876, ii. 939) mentions thirteen cases of poisoning by *Tetrodon Hystrix* (a fish closely allied to the Japanese *fugu*, and perhaps identical with one species) in which the phenomena were perfectly parallel to those reported by Dr. GOERTZ. It is noticeable that in the cases of the latter gentleman, as well as in the thirteen at Sarawak, only those persons were attacked who had partaken of the roe of the fish, and that FONSSAGRIVES and DE MERICOURT, in the article above mentioned, state that the roe appears to be the most poisonous part. Cases of serious character have even been reported as due to the roe of several of the more common European fish, *e.g.* the pike and barbel. (MAX SIMON, *Bulletin de Thérapeutique*, xxxvii. 49.)

Next to the roe, the liver of the *Tetrodon* is probably the most dangerous portion. Cases of death within seventeen minutes after partaking of the part, are reported from the Cape of Good Hope. Dr. GOERTZ, on the authority of KÆMPFER, states that the Japanese believe that the *fugu* may be eaten with safety if the head, the bones and the contents of the abdomen are removed.

As in despite of the double danger of death and legal punishment attaching to the use of the *fugu*, the Japanese, who are exceedingly fond of it, persist in its consumption, and as their carelessness of their own lives may at any time involve those of their employers, as in one of Dr. GOERTZ's cases, it is well to be able to recognize the general characteristics of the *fugu* tribe, and to avoid the use of the roe of any fish, not perfectly well known as safe.

In untechnical language the varieties of *Fugu* or *Tetrodon*, most usual in Japan, may be described as follows. Size variable, more common species seven to ten inches long, some to twenty to twenty-four inches in length. General appearance of fish clumsy and ungraceful. Head short and disproportionately large, with an abrupt slope from the prominent mouth to top of head; a wide space between the eyes, which are comparatively large. Belly large and often prominent or inflated, most species having the habit of blowing themselves up with air when first taken from the water, a process which often converts the fish into a mere bladder. Skin covered with small scales, sometimes with spines, or both spines and scales. Fins rather small, tail somewhat rounded as if by cutting. Jaws projecting; both upper and under jaw solid, and divided into two teeth which are not covered by the lips. Colours dull, back and sides generally brown or greenish brown mottled with black or ashy spots above; belly white, bluish white or yellow. Of these characteristics the formation of the mouth is the most distinctive, and it is well to be suspicious of any fish exhibiting this peculiar structure of the jaw, or a closely resembling arrangement of the parts, as there are allied genera, known to be sometimes poisonous, which differ from the commoner *fugu* chiefly in that the jaws are either not separated into teeth at all but form a solid bony arch, as in the *Diodon* (sun fish); or have the upper jaw divided into two teeth the lower being solid as in the *Triodons*; or have each jaw divided into eight to twelve teeth as in *Balistes* and *Ostracion*. The small square and box-like fish, covered with hard armour which is so often when dried offered for sale as a curiosity at Inoshima and elsewhere, belongs to the genus *Ostracion*, and is sometimes poisonous.

The injurious effects produced by *Crustacea* and *Mollusca* are rarely so grave in their character as are those caused by the more poisonous fish. The mischief is generally due either to simple indigestibility or to incipient decomposition, the latter more especially as regards the *Crustacea*, such as crabs, prawns and lobsters, which are hardly dead before putrefaction begins. Of the cases of so-called poisoning by prawns and oysters, which are by no means uncommon in Yokohama, most of those which have come under my observation have been but attacks of acute indigestion. There is, however, no doubt that some species or individuals both of the molluscans and crustaceans are, at least occasionally, specifically poisonous, independent of indigestibility or decomposition. The symptoms produced are those of irritant poisons, such as abdominal pain, vomiting and purging, to which, in the severer cases, is added a grave depression of the nervous system analogous to that produced by the *fugu*, as described above.

As in the case of fish, no satisfactory explanation has as yet been given of the deleterious effects of these lower tribes. In the case of the oyster, the poisonous action is popularly ascribed to the presence of copper, but most careful analysis has invariably failed to demonstrate sufficient of the salts of this metal to account for the phenomena. In the case of the edible mussel, which has frequently caused death, ORFILA long ago suggested the possibility that its occasional virulence is due to the feeding of the mollusc upon the spawn of star-fish (*Leçons de Médecine Légale*, i. 195). This opinion has lately been reiterated by DE BEUNIE, the latter having found by dissection that certain poisonous mussels had undoubtedly been feeding upon the ova of the star-fish, and by experiment that this spawn was a severe irritant even to the external surface of the body (*Journal de Pharmacie et de Chimie*, 1871, p. 298).

I believe it to be susceptible of proof that oysters taken from the canals in Yokohama and Tokio, or from the immediate neighbourhood of these conduits, are more frequently injurious than are those taken from purer and more open water. In view of the fact that the canals in question are little more than open sewers, a possible explanation of the facts readily suggests itself.

As fish poisoning in its graver forms is fortunately very rare among foreign residents, and as cases of the kind when non-fatal lead as a rule to quick recovery, I find no entries under this heading in the books either of the hospital or the cemetery, with the single exception of two cases simultaneously admitted to hospital in 1868, in which the diagnosis of poisoning by shell-fish was made, but a note is appended ascribing the disease to the use of canned lobster which had been for several days open. Neither case was fatal, nor can they fairly be considered as due to any cause other than the decomposition of the shell-fish.\*

LACQUER POISONING (*Lacquer Eczema*).—The comparatively trivial nature of most cases of this intoxication may be inferred from the fact that no cases appear in the records either of the hospital or the cemetery, though, as we shall see farther on, it is by no means impossible that exceptionally severe cases may result in death.

The botanical relations of the *Rhus vernicifera*, from which lacquer is derived, are very close to the American species *Rhus venenata* and *Rhus toxicodendron*, while the effects of the poisons of the three species are exactly similar, and as will be seen below, their chemical reactions correspond. The American species have been investigated by Professor MAISCH, the result of his researches being briefly as follows:—

The poisonous principle of the *Rhus toxicodendron* exists in the form of a volatile acid, the concentrated emanations from the fresh leaves or wood, the expressed juice or the distillate alike reddening litmus. Professor MAISCH succeeded in separating this active principle which he calls toxicodendric acid, and found that its poisonous effects were those of the plant, but that it was much more rapid and violent in its action. The emanations from the tree are not sufficiently intense at ordinary temperatures to affect without actual contact any but the most sensitive skins; but while the plant was undergoing distillation, the diffused poison affected all who entered the room. (*Proceedings of the American Pharmaceutical Association, 1865.*)

I have made a chemical examination of the Japanese lacquer, sufficiently thorough to assure me that it contains a volatile acid, the reactions of which agree with those of the toxicodendric acid of MAISCH. The volatility of this principle explains the rare but well established cases of lacquer poisoning without direct contact, the immunity with which dried specimens of the plant may be handled, and the fact that lacquered articles become innocuous when once thoroughly dry and hard; while the acid nature of the poison affords a rational explanation of the fact, long empirically established, that as a preventive, or in the very first stages of lacquer poisoning, alkalies and certain chemical agents which form insoluble compounds with toxicodendric acid (*e.g.* acetate of lead) are most to be relied upon.

All effects are generally manifested within twenty-four or thirty-six hours after subjection to the influence of the poison, sometimes not till the expiration of two, three or even four days.

\* Since the above was written, the writer has been engaged in experimental researches upon the *fugu* poison, his results being of so positive a nature that he hopes at no distant day to present an account of the subject more complete than any yet published.

Exposed parts, such as the hands or face, are most frequently attacked, though the poison, before absorption, may be conveyed by the hands to other parts of the body. In most cases the first notable effect is the production of an erysipeloid, œdematous swelling of the affected part, which is accompanied by severe itching, burning and sense of tension. In the milder cases this may be the only result. More frequently the diffuse swollen inflammation is accompanied or followed by a vesicular eruption, exuding a watery fluid which may soon, and often does, become purulent. Cases present every degree of intensity, the eruption once formed appearing to be of eczematous nature and varying from a trifling rash, the component lesions of which are separate and distinct, to a confluent form in which even large purulent ulcers may occur, as is the case in ordinary eczema of severe type.

As a rule the lacquer disease readily yields to treatment and is of little gravity. I have, however, met with two cases in which the resulting skin affection was severe, chronic and obstinate. Two cases of death from exhaustion, the result of unusually severe poisoning by *Rhus toxicodendron*, have been reported in America, but so far, I have been able to learn of no case in Japan in which the later stage of the disease was so severe as to excite apprehension. Dr. GOERTZ, in a paper upon lacquer poison, published in the *Transactions of the German Asiatic Society of Japan* for September 1875, alludes to a case in which the intense irritation and congestion at the onset of the disease produced grave cerebral disturbance.

The disease arising from lacquer poisoning is only pseudo-contagious, that is, the poison before its absorption by the skin may be transferred to others, just as from one part of the patient's body to another; but once having taken full effect the disease is no more contagious than are other eczematous affections (excluding the misnamed eczema marginatum).

Any one wishing to investigate the subject of lacquer poison, will find in the paper of Dr. GOERTZ, mentioned above, some most valuable material.

DISEASES DUE TO INTERNAL ANIMAL PARASITES.—The commoner diseases of this class are rarely of a character which compels resort to hospital, neither do they often appear as a cause of death in the vital statistics of any but certain well known and limited districts. That tapeworm and roundworm are on the whole somewhat more frequent here than in most parts of Europe and America is, I think, undoubted, nor is the explanation of this fact difficult in view of the system of agriculture pursued by the natives. But the parasites are found in that stage of their existence during which they are the source of but little danger to their host. No record is to be found of the death of any foreigner in Yokohama from these causes, nor have I been able to learn of more than a very few cases of echinococcus tumours among the natives.

Parasitic chyluria is occasionally met with among the Japanese, Dr. BÆLZ of Tokio and myself, and probably others, having seen cases and detected the parasite. I have recently had under treatment a case of this disease in a foreigner, but in him it appears to have been contracted in India.

That the number of diseases ascribed to internal animal parasites will soon be largely increased seems probable from the results of recent investigations, more especially in eastern countries. I have already under the subject of aneurism, alluded to the researches of Dr. MANSON of Amoy. The laborious inquiries of this gentleman, taken with those of others recently working in the same direction, seem to prove that elephantiasis proper (*E. Arabum*) should be relegated

to the class of parasitic diseases. Of this disease but one case occurs in the records upon which this paper is based, this being that of a Malay who brought the disease from his own country. Elephantiasis is certainly rare among the Japanese also, at least as concerns those of Yokohama and Tokio.

DISEASES USUALLY OCCURRING AS THE CONSEQUENCE OF INJURIES OR OPERATIONS.—The more important of these, pyæmia or septicæmia, erysipelas and tetanus, all of which may occur independently of mechanical injury or surgical operation, but are most frequent and serious in surgical practice, have but seldom attacked foreigners in Yokohama.

The records of the hospital show no death by pyæmia, although one case has occurred which is entered under bedsores, the cause of the fatal pyæmia. Another case followed upon a peculiarly severe operation for strangulated hernia, but fortunately terminated in that rare event, recovery.

The cemetery records note but two cases of pyæmia or septicæmia, one of which was the case of bedsores above mentioned, the other following on childbirth.

Of tetanus but one case is reported in the ten years of hospital experience; this occurred after surgical operation, and does not appear in the cemetery record, where it was in all probability entered under the primary injury. Two deaths by tetanus are recorded in the mortuary register, making three deaths from this cause in a period of seven years.

Of erysipelas three cases are entered in the books of the hospital, or a percentage of 0·2 in all, treated during ten years, but one case proving fatal. The record of the cemetery contains no entry for this cause, the death in hospital having occurred prior to the time at which the mortuary register begins.

Now, when it is considered that, as shown by the tables, a very large number of injuries have been admitted, and that many operations of greater or less magnitude have been performed in the hospital during the past ten years, while pyæmia and tetanus as a consequence of injury or operation have occurred but once each, it is evident that the surgeon has little to fear from these complications. How much of exemption from pyæmia and erysipelas, so far as the hospital is concerned, is due to the system long pursued in the institution, of occupying each general ward but for two months at a time, with an interval of the same period before patients are again placed in the room, during which interval the ward is thoroughly cleansed and painted, it is difficult to say; but private practice appears to be as free from these accidents as is that of the hospital surgeons.

In China also, pyæmia is a rare occurrence, and it may be that climatic conditions have more to do with the causation or propagation of diseases of this class than has been admitted of late.

DISEASES ESPECIALLY ATTACKING CHILDREN.—The non-occurrence of scarlet fever in Japan has been already noticed; with the exception of this disease and of cholera infantum, which is generally acknowledged to be very rare, children of foreign parentage are exposed in Yokohama to the usual maladies of their age, but on the whole the death rate in this class of the community is far lower than in most parts of Europe and America. The rarity of cholera infantum is remarkable in view of the fact noted below, that a large proportion of infants born in Yokohama are necessarily committed to wet-nurses or bottle-fed, generally the latter.

**AFFECTIONS OF PREGNANCY AND CHILDBIRTH.**—There is reason to believe that pseudo-menstruation, or a more or less periodical recurrence of hæmorrhage, during pregnancy, is unusually frequent among foreign residents in Japan. I have collected the histories of nine cases of this nature, all of which have been met with during the last five years, and it is probable that this number by no means includes all that have occurred during that period. Considering that the number of foreign females of all classes, resident here during the period named, has by accurate census averaged but 200, nine is certainly a large number of cases of this elsewhere rare phenomenon.

The number of so-called dry labours is also very large in proportion to the number of accouchements; in fact, judging from my own experience and that of several of my colleagues, deficiency of liquor amnii must be regarded rather as the rule than the exception. That under these circumstances accident either to mother or child is no more common in Yokohama than elsewhere, supports so far as it goes, the doctrine that the rôle played by the "bag of waters" in the mechanism of labour has been greatly over-rated. Probably in some way connected with the above is the fact that an exceedingly large number of women here are unable to nurse their children, though otherwise in good health. Taking the experience of the three medical men who have the largest obstetric practice, a practice including all nationalities, I find that at least 33 per cent. of the parturient women of Yokohama are, in this sense, bad mothers, and yet, as before remarked, the infantile mortality is exceptionally small.

Puerperal blood poisoning, or puerperal fever in any form is very rare among foreign residents, nor have these diseases ever been epidemic even to the extent of two successive cases. Undoubted cases of septicæmia consequent on childbirth have occurred, but these have been but few, widely separated in point of time, and without exception traceable to individual causes.

In concluding, the writer would acknowledge his obligations by Drs. J. C. HEPBURN, D. B. SIMMONS, E. WHEELER and A. GOERTZ, all of Yokohama, for information bearing upon the subjects of this paper, and assistance which the very long residence and extensive experience of at least two of these gentlemen, rendered peculiarly valuable.

YOKOHAMA GENERAL HOSPITAL: REPORT OF CASES TREATED, March 20th 1868 to February 12th 1875.

	1868. Mar. 20 to Dec. 31.		1869.		1870.		1871.		1872.		1873.		1874.		1875. Jan. 1 to Feb. 12.		Total Admitted.	Total Fatal.	Per cent. of whole Number.	Per cent. Fatal.
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.				
Abscess	2	...	1	...	2	...	...	...	1	...	3	...	2	...	...	...	11	...	841	...
Adenitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...
Alcoholism	...	...	1	1	...	...	1	...	...	...	...	...	...	...	2	...	4	1	306	25'000
Anemia	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	076	...
Aneurism	...	...	...	...	1	...	1	1	1	1	...	...	...	...	...	...	3	2	229	66'666
Arthritis (not general)	...	...	...	...	4	...	2	...	...	...	1	...	2	...	...	...	9	9	638	...
Ascites	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	...	153	...
Asphyxia	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2	...	153	...
Bright's Disease (Nephritis, etc.)	...	...	6	...	7	2	4	2	1	...	2	1	...	...	...	...	20	5	1530	25'000
Bronchitis	...	...	4	...	5	...	3	1	1	...	3	...	6	3	...	...	22	4	1683	18'181
Bubo	...	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...	8	...	612	...
Burns	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	076	...
Cancer	...	...	...	...	3	1	2	2	...	...	...	...	...	...	...	...	5	3	382	60'000
Carbuncle	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	076	...
Cerebral Concussion	...	...	1	...	...	...	1	...	...	...	2	...	...	...	...	...	4	...	306	...
Cerebral Congestion	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	076	100'000
Cerebral Effusion	...	...	...	...	...	...	2	2	...	...	1	...	...	...	...	...	3	2	229	66'666
Cerebral Hæmorrhage	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	076	100'000
Cerebral Inflammation	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	076	100'000
Cerebral Softening	...	...	...	...	1	1	...	...	1	1	...	...	2	2	1	...	5	4	382	80'000
Cholera (Sporadic)	...	...	...	...	3	3	...	...	...	...	1	...	...	...	...	...	4	3	306	75'000
Cholera Morbus	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...
Chorea	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	076	...
Colic	...	...	...	...	4	...	...	...	1	...	6	...	...	...	...	...	11	...	841	...
Constipation	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	153	...
Contusion	4	...	8	...	4	...	3	...	2	...	1	...	7	...	...	...	29	...	2211	...
Convulsions	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	076	100'000
Cystitis	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	3	...	229	...
Dactylitis	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	076	...
Delirium Tremens	9	2	8	1	18	3	9	2	2	...	4	...	3	...	...	...	53	8	4055	15'094
Dementia	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	153	...
Diarrhoea	1	...	8	...	10	1	2	...	2	...	...	...	2	...	1	...	26	1	1989	3'846
Dipsomania	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	076	...
Dislocation of Ankle	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...
Dysentery	5	1	14	2	14	5	9	2	7	1	5	2	12	3	1	...	67	16	5126	23'880
Dyspepsia	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	076	...
Eczeema	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	076	...
Enteritis	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	153	...
Epilepsy	...	...	1	...	...	...	2	...	2	...	...	...	...	...	...	...	8	...	612	...
Erysipelas	1	1	...	...	...	...	1	...	...	...	...	3	...	...	...	...	3	1	229	33'333
Fever, Intermittent	4	...	6	...	4	...	1	...	2	...	1	...	1	...	...	...	19	...	1453	...
Fever, Remittent	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...
Fever, Simple Continued	...	...	2	...	2	...	1	1	5	...	4	...	2	...	...	...	16	1	1224	6'250
Fever, Typhoid	2	...	31	2	15	...	4	1	...	...	...	...	1	...	...	...	53	3	4055	5'660
Fever, Typhus	...	...	22	4	42	11	9	3	...	...	1	...	...	...	...	...	74	18	5661	24'324
Fever (?)	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	076	100'000
Fistula in Ano	...	...	...	...	...	...	1	...	1	...	2	...	2	...	...	...	6	...	459	...
Fistula, Urinary	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	2	...	153	...
Fractures, all kinds	6	1	6	1	5	...	1	...	2	...	4	...	3	...	...	...	27	2	2065	7'407
Frostbite	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	9	...	688	...
Gangrene	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	076	100'000
Gastritis	2	...	2	...	...	...	...	...	...	...	4	...	...	...	1	...	9	...	688	...
Gastro-Enteritis	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	076	...
General Debility	1	...	4	...	11	...	9	...	3	...	2	1	6	...	...	...	36	1	2754	2'777
Gonorrhoea	6	...	1	...	1	...	...	...	...	...	1	...	...	...	1	...	10	...	765	...
Gout	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2	...	153	...
Heart Disease (not specified)	...	...	...	...	4	2	4	2	3	...	2	1	1	...	...	...	14	5	1071	35'714
Hæmoptysis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	076	...

YOKOHAMA GENERAL HOSPITAL: REPORT OF CASES TREATED.—Continued.

	1868. Mar. 26 to Dec. 31.		1869.		1870.		1871.		1872.		1873.		1874.		1875. Jan. 1 to Feb. 12.		Total Admitted.	Total Fatal.	Per cent. of whole Number.	Per cent. Fatal.
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.				
Hæmorrhoids	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	153	...	
Hernia	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	3	...	229	...	
Herpes zoster	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Hydrocele	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Hydrothorax	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	2	2	153	100'000	
Hypochondria	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Hysteria	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	4	...	306	...	
Liver, Abscess of	...	...	2	1	...	...	...	...	2	1	...	...	...	...	...	4	2	306	50'000	
" Atrophy of	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	153	50'000	
" Congestion of	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	2	...	153	...	
" Inflammation of	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	2	1	153	50'000	
Lungs, Congestion of	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Malignant Pustule	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Malingering	1	...	3	...	4	...	1	...	...	...	...	...	...	...	...	9	...	688	...	
Mania	1	...	2	...	2	...	...	...	4	...	3	...	2	...	...	14	...	1071	...	
Measles	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Necrosis of Long Bones	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	2	...	153	...	
Neuralgia	...	...	...	...	...	...	2	...	2	...	1	...	1	...	...	6	...	459	...	
Œdema Scroti	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Ophthalmia	...	...	3	...	1	...	2	...	...	...	...	...	1	...	...	7	...	535	...	
Orchitis, and Epididymitis	...	...	1	...	4	...	3	...	1	...	...	...	...	...	...	10	...	765	...	
Otitis	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	2	...	153	...	
Paralysis	2	...	3	...	1	1	...	...	2	...	1	1	1	1	...	10	3	765	30'000	
Periostitis	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	2	...	153	...	
Phagedæna	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	076	100'000	
Phthisis Pulmonalis	5	3	7	1	10	3	6	4	7	4	4	4	3	2	...	42	21	3213	50'000	
Phimosiis	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Pleuritis	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	3	...	229	...	
Pneumonitis	1	1	...	...	1	1	2	2	1	...	1	1	2	1	...	8	6	612	75'000	
Poisoning by Shell-fish	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	153	...	
Prostatitis	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Psoriasis	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	076	...	
Rheumatism	5	1	16	...	10	...	6	...	12	...	5	...	9	...	1	64	1	4896	1562	
Rupture of Lig. Patellæ	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Sarcocæle Testis	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Sarcoma of Tongue	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	076	...	
Scabies	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	3	...	229	...	
Scald	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	2	1	153	50'000	
Scarlatina	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	2	1	153	50'000	
Scrofula	...	...	...	...	...	...	3	...	...	...	...	1	...	...	...	4	...	306	...	
Scurvy	1	...	8	...	14	...	2	...	2	...	...	2	...	...	...	29	...	2211	...	
Small-pox	11	2	...	...	68	18	55	12	1	...	7	1	7	...	19	3	168	35	12853	21428
Spleen, Enlargement of	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	076	...	
" Inflammation of	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	2	...	153	...	
Stricture of Urethra	3	...	4	...	5	1	2	...	...	...	1	...	2	...	1	18	1	1377	5555	
Stricture of Rectum	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	076	100'000	
Stomatitis	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	076	...	
Sunstroke	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	3	...	229	...	
Syphilis	34	3	55	3	34	...	13	1	17	1	...	15	...	2	...	177	8	13542	4519	
Tenia	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Tetanus, following operation	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	076	100'000	
Tonsillitis	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	153	...	
Tuberculosis Abdominalis	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	1	076	100'000	
Ulcer, Chronic	2	...	3	1	...	...	2	...	2	...	1	...	2	...	...	12	1	918	8333	
Ulcer of Stomach	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	076	100'000	
Urethral Hæmorrhage	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	076	...	
Urticaria	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	076	...	
Uterine Ulceration	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	076	...	
Wounds, including Amputations	7	1	13	1	11	4	5	1	6	2	4	...	8	...	...	54	9	4131	16666	
TOTAL	139	20	261	21	346	57	194	44	107	11	101	15	126	13	33	4	1,307	185	...	...

## YOKOHAMA GENERAL HOSPITAL: REPORT OF CASES TREATED, February 13th 1875 to December 31st 1877

	1875.		1876.		1877.		TOTAL.		PERCENTAGE OF WHOLE NUMBER.	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
GENERAL DISEASES:—										
Small-pox	5	...	11	1	4	...	20	1	4'45	5'00
Typhus Fever	...	...	...	...	1	1	1	1	0'22	100'00
Typhoid Fever	1	...	1	...	2	1	4	1	0'89	25'00
Simple Continued Fever	3	...	3	...	...	...	6	...	1'33	...
Typho-Malarial Fever	...	...	1	...	...	...	1	...	0'22	...
Rötheln	1	...	1	...	1	...	3	...	0'66	...
Intermittent Fever	4	...	3	...	3	...	10	...	2'22	...
Remittent Fever	2	...	2	...	4	1	8	1	1'78	12'50
Malarial Cachexia	1	1	2	1	11	...	14	2	3'12	14'28
Cholera Asiatica	...	...	...	...	3	2	3	2	0'66	66'66
Whooping-cough	...	...	...	...	1	...	1	...	0'22	...
Acute Rheumatism	...	...	1	...	2	...	3	...	0'66	...
Chronic Rheumatism	7	...	4	...	2	...	13	...	2'89	...
Syphilis, Primary	3	...	5	...	5	...	13	...	2'89	...
" Secondary	15	...	11	...	4	...	30	...	6'68	...
" Inveterate	2	1	3	...	8	...	13	1	2'89	7'69
Scirrhus (of Breast)	1	...	...	...	...	...	1	...	0'22	...
Epithelioma (of Tongue)	...	...	1	...	...	...	1	...	0'22	...
Phthisis Pulmonalis	3	2	6	1	3	1	12	4	2'66	33'33
Anæmia	...	...	...	...	1	...	1	...	0'22	...
Scurvy	3	...	9	...	2	...	14	...	3'12	...
DISEASES OF NERVOUS SYSTEM:—										
Cerebral Softening	1	...	3	2	...	...	4	2	0'89	50'00
" Sclerosis	...	...	1	...	...	...	1	...	0'22	...
" Hæmorrhage	...	...	...	...	1	...	1	...	0'22	...
" Congestion	...	...	2	...	...	...	2	...	0'44	...
Hemiplegia	2	...	1	...	1	...	4	...	0'89	...
Epilepsy	1	...	...	...	...	...	1	...	0'22	...
Neuralgia of 5th Nerve	...	...	1	...	2	...	3	...	0'66	...
Pleurodynia	...	...	...	...	1	...	1	...	0'22	...
Sciatica	...	...	...	...	2	...	2	...	0'44	...
Mania	...	...	1	...	1	...	2	...	0'44	...
Melancholia	...	...	...	...	3	...	3	...	0'66	...
Monomania and Dipsomania	2	1	2	...	...	...	4	1	0'89	25'00
Progressive Paralysis of Insane	...	...	1	...	1	...	2	...	0'44	...
DISEASES OF THE EYE:—										
Catarrhal Conjunctivitis	2	...	...	...	...	...	2	...	0'44	...
Opacities of Cornea	...	...	...	...	1	...	1	...	0'22	...
Irido-choroiditis	...	...	...	...	1	...	1	...	0'22	...
Cataract	2	...	...	...	...	...	2	...	0'44	...
DISEASES OF CIRCULATORY SYSTEM:—										
Pericarditis and Endocarditis	2	1	...	...	...	...	2	1	0'44	50'00
Valvular Disease of Heart	2	1	...	...	...	...	2	1	0'44	50'00
Angina Pectoris	...	...	1	...	...	...	1	...	0'22	...
Irritable Heart	...	...	1	...	...	...	1	...	0'22	...
Aneurism of Aorta	1	...	...	...	2	...	3	...	0'66	...
Aneurism of Popliteal	...	...	1	1	...	...	1	1	0'22	100'00
DISEASES OF DUCTLESS GLANDS:—										
Addison's Disease	...	...	...	...	1	1	1	1	0'22	100'00
DISEASES OF RESPIRATORY SYSTEM:—										
Laryngitis	...	...	...	...	1	...	1	...	0'22	...
Bronchitis	1	...	2	...	1	...	4	...	0'89	...
Asthma	1	...	2	...	2	...	5	...	1'11	...
Pneumonitis	3	1	4	1	5	2	12	4	2'66	33'33
Pulmonary Extravasation	1	1	...	...	...	...	1	1	0'22	100'00
Pleuritis	1	...	1	...	2	...	4	...	0'89	...
Hydrothorax	...	...	...	...	1	...	1	...	0'22	...
DISEASES OF DIGESTIVE SYSTEM:—										
Pharyngitis	...	...	1	...	...	...	1	...	0'22	...
Vascular Tumour of Parotid Gland	1	...	...	...	...	...	1	...	0'22	...
Chronic Gastritis (and Gastric Catarrh)	1	...	4	...	2	...	7	...	1'56	...

## YOKOHAMA GENERAL HOSPITAL: REPORT OF CASES TREATED.—Continued.

	1875.		1876.		1877.		TOTAL.		PERCENTAGE OF WHOLE NUMBER.	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Gastro-hepatic Catarrh .....	...	...	...	...	1	...	1	...	0'22	...
Dyspepsia .....	2	...	...	...	1	...	3	...	0'66	...
Dysentery .....	10	...	3	...	1	...	14	...	3'12	...
Strangulated Inguinal Hernia .....	...	...	1	...	...	...	1	...	0'22	...
Tænia .....	...	...	1	...	...	...	1	...	0'22	...
Constipation .....	...	...	...	...	1	...	1	...	0'22	...
Diarrhœa .....	4	...	1	...	1	...	6	...	1'33	...
Colic .....	1	...	...	...	...	...	1	...	0'22	...
Abscess of Anus .....	1	...	...	...	...	...	1	...	0'22	...
Hæmorrhoids .....	1	...	1	...	...	...	2	...	0'44	...
Prolapsus Recti .....	...	...	2	...	...	...	2	...	0'44	...
Abscess of Liver .....	...	...	1	1	...	...	1	1	0'22	100'00
Congestion of Liver .....	...	...	2	...	...	...	2	...	0'44	...
Cirrhosis of Liver .....	5	1	...	...	1	1	6	2	1'33	33'33
Amyloid Liver .....	1	1	...	...	...	...	1	1	0'22	100'00
Ascites from unknown causes .....	1	1	1	1	...	...	2	2	0'44	100'00
Ascites from Hepatic Disease .....	1	...	...	...	...	...	1	...	0'22	...
DISEASES OF URINARY SYSTEM:—										
Nephritis (and Varieties of Degeneration) .....	1	...	2	1	...	...	3	1	0'66	33'33
Cystitis .....	1	...	...	...	2	...	5	...	1'11	...
Uric Acid Diathesis .....	...	...	1	...	...	...	1	...	0'22	...
Acute Prostatitis .....	...	...	1	...	...	...	1	...	0'22	...
Gonorrhœa .....	1	...	1	...	2	...	4	...	0'89	...
Gonorrhœal Bubo .....	2	...	3	...	...	...	5	...	1'11	...
Epididymitis (Gonorrhœal) .....	3	...	1	...	1	...	5	...	1'11	...
Stricture of Urethra .....	1	...	4	...	2	...	7	...	1'56	...
DISEASES OF GENERATIVE SYSTEM:—										
Chronic Orchitis (Non-Venereal) .....	...	...	1	...	1	...	2	...	0'44	...
Peri-uterine Hæmatocele .....	1	...	1	...	...	...	2	...	0'44	...
DISEASES OF FEMALE BREAST:—										
Adenitis .....	...	...	...	...	1	...	1	...	0'22	...
DISEASES OF ORGANS OF MOTION:—										
Periostitis of Finger .....	...	...	...	...	1	...	1	...	0'22	...
Synovitis of Knee Joint .....	1	...	...	...	3	...	4	...	0'89	...
Periostitis of Metacarpals .....	...	...	...	...	1	...	1	...	0'22	...
DISEASES OF ARROLEAR TISSUE:—										
Carbuncle .....	...	...	1	...	...	...	1	...	0'22	...
Abscess .....	...	...	1	...	...	...	1	...	0'89	...
DISEASES OF SKIN:—										
Urticaria .....	...	...	...	...	1	...	1	...	0'22	...
Chronic Ulcer .....	3	...	...	...	1	...	4	...	0'89	...
Frostbite .....	...	...	1	...	...	...	1	...	0'22	...
Scabies .....	1	...	...	...	...	...	1	...	0'22	...
Bedsore .....	...	...	...	...	1	1	1	1	0'22	100'00
Elephantiasis .....	...	...	...	...	1	...	1	...	0'22	...
CONDITIONS NOT NECESSARILY OF DISEASE:—										
General Debility .....	...	...	3	...	3	...	6	...	1'33	...
Malingering .....	...	...	...	...	1	...	1	...	0'22	...
POISONS:—										
Chronic Lead Poisoning .....	...	...	...	...	1	...	1	...	0'22	...
Alcoholism, Chronic .....	5	...	11	1	6	...	22	1	4'89	4'54
Gastritis, from Alcohol .....	1	...	...	...	1	...	2	...	0'44	...
Cerebral Meningitis, from Alcohol .....	...	...	...	...	1	1	1	1	0'22	100'00
Delirium Tremens .....	5	...	5	1	2	...	12	1	2'66	8'33
INJURIES:—										
Contusions .....	4	...	2	...	6	...	12	...	2'66	...
Scalds and Burns .....	...	...	2	...	...	...	2	...	0'44	...
Contused Wound of Scalp .....	...	...	...	...	2	...	2	...	0'44	...
Incised Wound of Scalp .....	...	...	1	...	...	...	1	...	0'22	...
Cerebral Concussion .....	...	...	1	...	...	...	1	...	0'22	...
Fracture of Base of Skull, Gunshot .....	...	...	1	1	...	...	1	1	0'22	100'00
Incised Wound of Neck .....	...	...	1	...	...	...	1	...	0'22	...

YOKOHAMA GENERAL HOSPITAL: REPORT OF CASES TREATED.—Continued.

	1875.		1876.		1877.		TOTAL.		PERCENTAGE OF WHOLE NUMBER.	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Fracture of Ribs without Injury of Lung	1	...	...	...	...	...	1	...	0'22	...
" " with Injury of Lung...	...	...	...	...	1	...	1	...	0'22	...
Penetrating Wounds Chest & Abdomen	...	...	...	...	1	...	1	...	0'22	...
Punctured Wound of Spine	...	...	...	...	1	...	1	...	0'22	...
Incised Wound, Abdomen	...	...	1	...	...	...	1	...	0'22	...
Fracture of Metacarpus and Pelvis	1	...	...	...	...	...	1	...	0'22	...
Lacerated Wound of Hand	...	...	...	...	1	...	1	...	0'22	...
Sprain of Wrist	1	...	...	...	...	...	1	...	0'22	...
Wound of Hand from Dog Bite	1	...	...	...	...	...	1	...	0'22	...
" " Gunshot	...	...	1	...	...	...	1	...	0'22	...
Fracture of Clavicle	1	...	...	...	...	...	1	...	0'22	...
Compound Fracture Radius and Ulna..	1	...	1	...	...	...	2	...	0'44	...
" " Phalanges	...	...	1	...	1	...	2	...	0'44	...
Sub-Disln. of Acromio-Clav. Articulation	...	...	...	...	1	...	1	...	0'22	...
Dislocation of Humerus	...	...	1	...	...	...	1	...	0'22	...
Sprain of Ankle	...	...	...	...	2	...	2	...	0'44	...
Fracture of Femur with Separation } of Epiphysis	1	...	...	...	...	...	1	...	0'22	...
Longitudinal Fracture of Patella	...	...	1	...	...	...	1	...	0'22	...
Fracture Tibia and Fibula both Legs...	1	...	...	...	...	...	1	...	0'22	...
" " " one "	1	...	2	...	2	...	5	...	1'11	...
" of Tibia	1	...	...	...	...	...	1	...	0'22	...
Dislocation of Femur with Fracture } of Humerus	1	...	...	...	...	...	1	...	0'22	...
TOTAL	143	12	161	13	145	12	449	37	...	...

TABLE OF OCCURRENCE OF CERTAIN IMPORTANT DISEASES, WITH REFERENCE TO RESIDENCE OR NON-RESIDENCE: YOKOHAMA GENERAL HOSPITAL, March 20th 1868 to February 12th 1875.

	1868.		1869.		1870.		1871.		1872.		1873.		1874.		1875. Jan. 1 to Feb. 12.		TOTAL.		PER CENT. RE- SIDENT.	PER CENT. NON- RESIDENT.
	Res.	N.-Res.	Res.	N.-Res.	Res.	N.-Res.														
Malarial Fever	...	4	1	6	...	4	1	...	...	2	...	1	...	1	...	...	2	18	10'00	90'00
Typhus Fever	...	...	9	13	7	35	6	3	...	...	...	1	...	...	...	...	22	52	29'72	70'27
Typhoid Fever	1	1	7	24	2	13	2	2	...	...	...	...	...	1	...	...	12	41	22'64	77'35
Small-pox	1	10	...	...	27	41	28	27	...	1	...	7	4	3	17	2	77	91	45'83	54'16
Nephritis and Degeneration } of Kidneys	...	...	...	6	1	6	...	4	...	1	1	1	...	...	...	...	2	18	10'00	90'00
Phthisis Pulmonalis	1	4	5	2	3	7	2	4	4	3	1	3	1	2	...	...	17	25	40'47	59'52
Hepatic Diseases in general	...	2	2	...	...	1	...	2	2	1	...	...	...	...	...	...	4	6	40'00	60'00

TABLE OF OCCURRENCE OF CERTAIN IMPORTANT DISEASES, WITH REFERENCE TO RESIDENCE OR NON-RESIDENCE, YOKOHAMA GENERAL HOSPITAL: February 13th 1875 to December 31st 1877.

	1875. Feb. 13 to Dec. 31.		1876.		1877.		TOTAL.		PERCENTAGE OF WHOLE NUMBER OF CASES.	
	Res.	N.-Res.	Res.	N.-Res.	Res.	N.-Res.	Res.	N.-Res.	Res.	N.-Res.
Remittent Fever .....	1	1	...	2	...	2	1	5	16'12	3'878
Intermittent Fever .....	1	3	1	2	1	2	3	7		
Typho-Malarial Fever .....	...	...	1	...	...	...	1	...		
Malarial Cachexia .....	...	1	...	2	...	11	...	14	...	100'00
Zyphus Fever .....	...	...	...	1	...	1	...	1		
Typhoid Fever .....	...	1	...	1	...	2	...	4	...	100'00
Simple Continued Fever .....	...	3	1	2	...	...	1	5	16'66	83'33
Small-pox .....	3	2	...	11	1	3	4	16	20'00	80'00
Acute Rheumatism .....	...	...	...	1	1	1	1	2	33'33	66'66
Chronic Rheumatism .....	...	7	...	4	1	1	1	12	7'69	92'30
Lithiasis .....	...	...	...	1	...	...	...	1	...	100'00
Nephritis and Degeneration of Kidneys .....	...	1	...	2	...	...	...	3	...	100'00
Pneumonitis .....	1	2	1	3	2	3	4	8	31'25	68'75
Bronchitis .....	...	1	1	1	...	1	1	3		
Asthma not traceable to Organic Disease .....	...	1	...	2	1	...	1	3	25'00	75'00
Pulmonary Tuberculosis (Phthisis) .....	1	2	...	6	...	3	1	11	8'33	91'66
Pericarditis and Endocarditis .....	1	1	...	...	...	...	1	1	37'50	62'50
Valvular Disease of Heart .....	1	1	...	...	...	...	1	1		
Aneurism .....	...	1	1	...	...	2	1	3	15'00	85'00
Dysentery .....	1	9	...	3	1	...	2	12		
Diarrhoea .....	...	4	...	1	1	...	1	5	...	100'00
Hepatic Disease not traceable to Individual Causes .....	...	2	...	3	...	...	...	5		

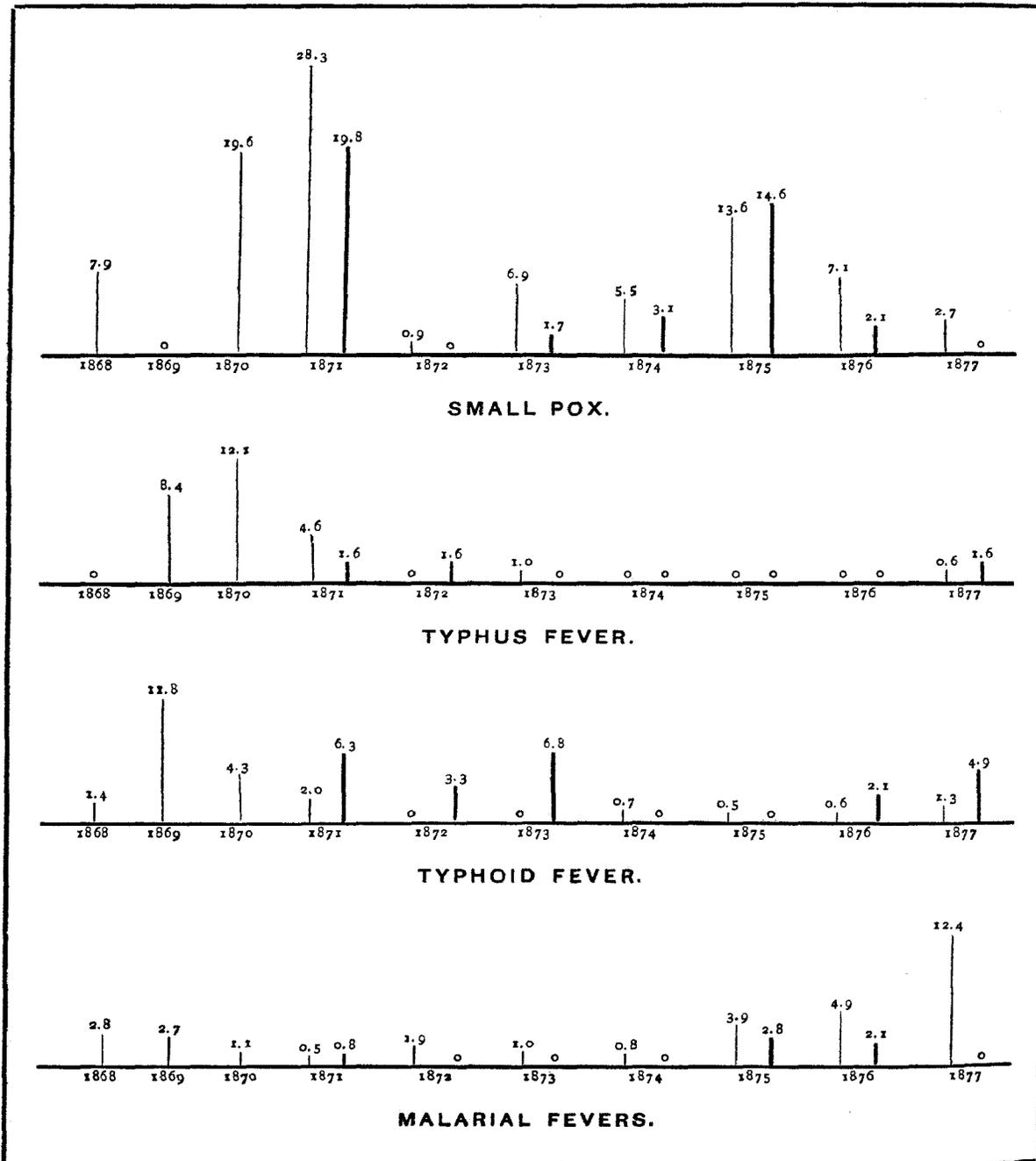
ABSTRACT FROM CEMETERY RECORD OF BURIALS, January 1st 1871 to December 31st 1877.

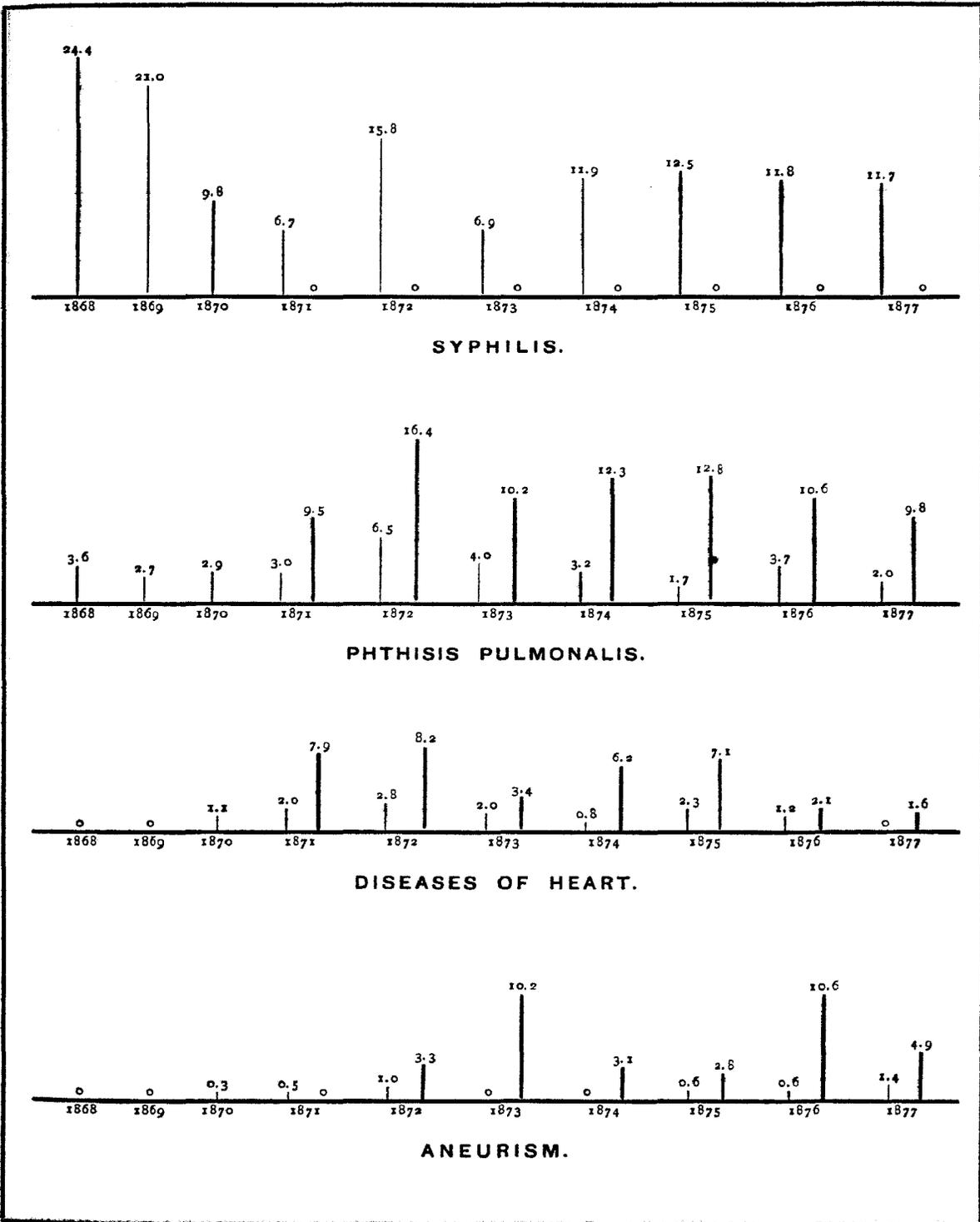
CAUSE OF DEATH.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	TOTAL DEATHS.	PER CENT. OF CLASSIFIED MORTALITY.
<b>GENERAL DISEASES:—</b>									
Small-pox .....	25	...	1	2	11	1	...	40	8'18
Measles .....	...	...	2	...	1	...	...	3	0'61
Typhus Fever .....	2	1	...	...	...	...	1	4	0'82
Typhoid Fever .....	8	2	4	...	...	1	3	18	3'68
Malignant Cholera .....	...	...	...	...	...	...	7	7	1'43
Diphtheria .....	...	...	...	1	1	...	1	3	0'61
Pyæmia .....	...	...	...	...	...	...	2	2	0'41
Intermittent Fever .....	1	...	...	...	...	...	...	1	0'20
Remittent Fever .....	...	...	...	...	2	1	...	3	0'61
Acute Rheumatism .....	...	1	1	...	...	...	...	2	0'41
Cancer .....	1	...	...	...	1	...	1	3	0'61
Phthisis Pulmonalis .....	12	10	6	8	9	5	6	56	11'45
Rickets .....	...	...	...	...	...	...	1	1	0'20
Anæmia .....	...	...	...	...	...	1	...	1	0'20
General Dropsy .....	...	...	...	1	...	1	1	3	0'61
<b>DISEASES OF NERVOUS SYSTEM:—</b>									
"Disease of Brain" .....	...	1	...	...	...	...	...	1	0'20
"Inflammation of Brain" .....	...	...	1	1	1	...	...	3	0'61
Meningitis .....	...	...	...	...	4	1	3	8	1'64
Cerebral Softening .....	1	1	1	2	...	2	...	7	1'43
Abscess .....	1	1	...	...	...	...	...	2	0'41
Hæmorrhage and Effusion .....	5	1	2	2	3	1	2	16	3'27
Sunstroke .....	5	...	...	1	...	...	...	6	1'23
Hydrocephalus .....	1	...	...	...	1	...	3	5	1'02
Paralysis .....	...	...	1	...	1	...	1	3	0'61
Cerebral Congestion .....	2	...	...	...	...	...	...	2	0'41
Convulsions .....	2	2	2	4	...	2	2	14	2'86
Tetanus .....	...	1	...	...	...	...	1	2	0'41
Epilepsy .....	...	...	2	...	...	...	...	2	0'51
Mania .....	1	...	...	...	...	...	...	1	0'20

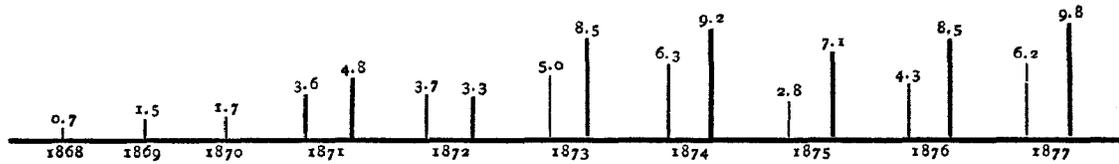
## ABSTRACT FROM CEMETERY RECORD OF BURIALS.—Continued.

CAUSE OF DEATH.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	TOTAL DEATHS.	PER CENT OF CLASSIFIED MORTALITY.
DISEASES OF CIRCULATORY SYSTEM:—									
“Disease of Heart”	10	5	2	4	4	1	1	27	5'52
Pericarditis	...	...	...	...	1	...	...	1	0'20
Aneurism	...	2	6	2	2	5	3	20	4'09
Phlebitis	...	...	1	...	...	...	...	1	0'20
DISEASES OF RESPIRATORY SYSTEM:—									
Croup	...	...	...	1	...	3	1	4	0'82
Bronchitis	2	2	1	3	2	2	2	14	2'86
Asthma	...	...	1	...	...	...	1	2	0'41
Pneumonitis	3	...	3	2	3	2	4	17	3'48
Pulmonary Apoplexy	1	...	...	...	...	...	...	1	0'20
Pleuritis	1	...	1	1	1	...	...	4	0'82
Empyema	1	...	...	...	...	...	...	1	0'20
Hydrothorax	1	...	...	...	...	...	...	1	0'20
DISEASES OF DIGESTIVE SYSTEM:—									
Ulcer of Stomach	...	...	...	1	...	...	...	1	0'20
Enteritis	2	...	1	...	...	...	1	4	0'82
Dysentery	6	5	2	9	4	...	...	26	5'32
Obstruction of Bowels	...	...	...	...	...	...	1	1	0'20
Intussusception of Bowel	1	...	...	...	...	...	...	1	0'20
Diarrhoea	...	...	1	2	3	2	1	9	1'84
Colic	...	...	1	...	...	...	...	1	0'20
“Disease of Liver”	1	2	...	...	2	2	...	7	1'43
Abscess of Liver	2	3	...	1	1	1	...	8	1'64
Abscess of Spleen	...	1	...	...	...	...	...	1	0'20
Peritonitis	...	...	2	...	1	1	...	4	0'82
Ascites	...	...	...	...	1	...	1	2	0'41
Tuberculosis Abdominalis	...	1	...	...	...	...	...	1	0'20
DISEASES OF URINARY SYSTEM:—									
Uræmia	...	...	...	...	...	1	...	1	0'20
Suppression of Urine	...	1	...	...	...	...	...	1	0'20
Nephritis and Albuminuria (Bright's Disease, etc.)	5	...	3	2	1	...	1	12	2'45
DISEASES OF ORGANS OF GENERATION:—									
“Uterine Irritation”	...	...	...	1	...	...	...	1	0'20
DISEASES OF PARTURITION:—									
“Died in Childbirth”	...	...	...	1	1	...	...	2	0'41
DISEASES OF ORGANS OF LOCOMOTION:—									
Gangrene of Legs	...	...	...	...	1	...	...	1	0'20
DISEASES OF CUTANEOUS SYSTEM:—									
Extensive Sloughs	...	...	1	...	...	...	...	1	0'20
Malignant Carbuncle	1	...	...	...	...	...	...	1	0'20
CONDITIONS NOT NECESSARILY OF DISEASE:—									
Stillborn	1	2	1	1	2	1	1	9	1'84
General Debility	2	2	...	1	...	2	1	8	1'64
Atrophy	...	...	1	...	...	...	...	1	0'20
POISONS:—									
“Poisoning”	...	...	...	1	...	1	...	2	0'41
Alcoholism and Delirium Tremens	4	1	1	1	1	1	1	10	2'04
INJURIES:—									
Asphyxia	2	1	1	...	1	...	1	6	1'23
Drowning	6	7	3	3	...	1	1	21	4'29
Contusions, etc., by falls	1	2	2	2	...	2	2	11	2'25
Burns	...	...	1	...	...	...	...	1	0'20
Cerebral Concussion	2	...	...	...	...	...	...	2	0'41
Fractures	3	2	...	...	1	...	...	6	1'23
Gunshot Wounds	...	...	...	2	...	1	...	3	0'60
Incised Wounds	...	1	...	...	...	...	...	1	0'20
Punctured Wounds	...	...	...	...	...	...	1	1	0'20
Homicide	...	...	...	...	...	1	...	1	0'20
Suicide	1	...	...	1	2	1	2	7	1'43
“Internal Hæmorrhage”	...	...	...	1	...	...	...	1	0'20
Not Classed	14	6	5	10	13	23	41	112	22'90
TOTAL	140	67	64	75	83	70	102	601	...

THE following Charts represent graphically the percentage of admissions to hospital for the more important diseases during the ten years 1868-1877, and the percentage of deaths from the same diseases as shown by the records of the Cemetery for the same period. The former is indicated by the lighter, the latter by the heavier, ruling.







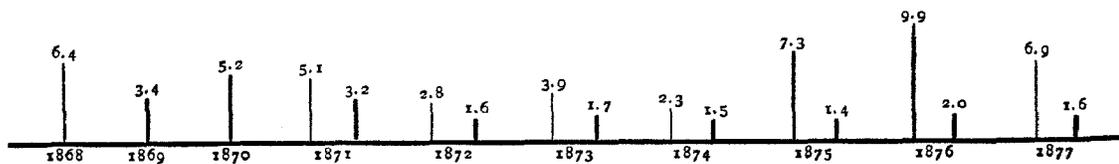
BRONCHITIS, PLEURITIS AND PNEUMONITIS.



DIARRHŒA AND DYSENTERY.



DISEASES OF KIDNEY.



ALCOHOLISM, INCLUDING DELIRIUM TREMENS.

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