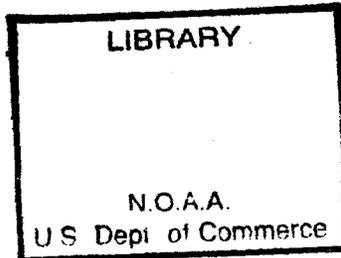


CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2



MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1898.

56th Issue.

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(1898)

PUBLISHED BY ORDER OF

The Inspector General of Customs.

SHANGHAI:

PUBLISHED AT THE STATISTICAL DEPARTMENT OF THE INSPECTORATE GENERAL OF CUSTOMS,

AND SOLD BY

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National Oceanic and Atmospheric Administration

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Beltsville, MD
December 20, 2000

INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,
PEKING, 31st December 1870.

SIR,

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

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

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

b.—Diseases prevalent at.....

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

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

e.—Peculiar diseases; especially leprosy.

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

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4—

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I am, etc.,

(Signed) ROBERT HART,

I. G.

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

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DR. D. RANKINE'S REPORT ON THE HEALTH OF ICHANG AND DISTRICT

For the Two and a Half Years ended 30th September 1898.

ICHANG is situated on the left bank of the Yangtze, and the foreign Settlement, which is intersected with native tenements, is below the native city. Hills bound the river on the opposite side and gradually run into the mountains of the gorges at a distance of 4 or 5 miles. To the north-west and south-east extends a long stretch of flat ground, largely used for the cultivation of rice and vegetables. Close to the foreign Settlement is the South Lake (南湖), whose waters rise and fall with the variations in the Yangtze, so much so that at times the greater part of this cultivated ground becomes a sheet of water. This area of paddy fields, interrupted by slight rising grounds, is from 1 to 1½ miles broad and 4 to 5 miles long. Beyond this and back from the river there seems to stretch an endless succession of hills and valleys. The presence of such a belt accounts, in a large degree, for the amount of fever that is in Ichang. Fever is got almost all the year round; I have cases for every month except January and February. It prevails especially in April and May, September and October. The rainy season may be said to begin in April, the hot season lasts during June, July, and August; and though the greatest rainfall may occur in these months, it does not fall as a continuous drizzling rain, but as heavy thunderstorms, which clear the air and produce a sense of coolness. In 1896 during August the rainfall was 13.30 inches, and this, combined with the water from up river, caused the river to rise to 53 feet 4 inches, the greatest height it has attained for many years. It flowed over the bund, drove the natives from the front street, and, receding, left a deposit of 2 or 3 feet of mud. It was feared that an outbreak of fever might be the result, but this did not occur.

During the months June, July, and August the heat is trying, especially in the last two months. During this time—and it will be noticed that in August 1897 the highest recorded temperature is 107° F., in July 1898 109° F.—the residents suffer from a variety of complaints, due, partly, I believe, to the injudicious use of fruit and unwise amount of exercise. Diarrhœa follows as a result of both separately. A sharp walk, taken only when compulsory or for pleasure, will result in diarrhœa; bathing too long prolonged will result in a feeling of absolute limpness, and in some cases lead to inflammation and, it may be, subsequent ulceration of the intestine. To these may be added insomnia, loss of weight, and sunstroke.

We have no "Kuling" just at hand, but we are not without a place which affords a change of air. About 4 or 5 miles up river, immediately below the entrance to the gorge, is San-yu-tung (三游洞). It is picturesquely situated and comparatively free from native intrusion. Two house-boats were lying there the greater part of the summer in a creek, when the water permitted it, and under the shelter of overhanging cliffs, whose shade was secured by

altering the position of the boat. I have been told there is a marked difference in the evening temperature compared with that of Ichang, and residents who have been unable to sleep at Ichang have secured good rest there. It can be reached by land or water. Mention must also be made of Ping-shan-pa (平善壩), where the Imperial Customs has a station; but it is practically inaccessible during the three months under discussion, owing to the rise and the current of the river. Besides, a house-boat cannot be moved in the high water, to be in the shade of the cliffs, and the sun beating continuously on the roof during the day would make it almost untenable. The houses at Ichang would be preferable. But I do consider it of great value as a place for a change—a sanatorium, forsooth!—during the greater part of the year. The air is bracing and fresh; free from the smells of a native city; free from emanations of superficial deposits of filth; free from the miasma that rises at sunset from the paddy fields. Several patients have been recommended to go there, and the results have been uniformly good.

One may also note that neuralgia, rheumatic pains, and swelling of extremities are common. The first has, in the majority of cases, not proved amenable to treatment. Some certainly improved under quinine when there was a malarial cause; others got better in time, the cure being as mysterious as the cause. The swelling of the extremities I attribute to the general relaxed condition of the system that is induced by the heat.

I have said that diarrhoea is common. It has been brought to my notice that many who otherwise enjoy good health have habitually a soft motion that does not amount to diarrhoea, in the strict sense of the term, either in looseness or frequency. What is the cause of this? Is it due to the water? And here I would suggest that it would be useful, from a therapeutic point of view, if an analysis of the water, quantitative and qualitative, were made at the Customs stations on the river. This would require to be done by a specialist, as, speaking for myself, I have no time nor apparatus, and, I presume, at other ports the Medical Officer has no more time at his disposal. Is it climatic? and would this climatic "unknown" produce in a less healthy and strong individual the condition known as climatic diarrhoea?

Special Cases.—Cases treated during this period included—

Malarial fever, intermittent.	Jaundice.
" " remittent.	Diarrhoea.
Typho-malarial.	Dysentery.
Influenza.	Rectitis.
Epidemic (?).	Ulceration of lower bowel.
Mixed fever (?).	Neuralgia.
Variola.	Sunstroke.
Hay fever.	Phthisis.
Laryngitis.	

My introduction to fever cases here was during a visit with the visiting physician to the convent of St. JULIENNE, where one of the sisters had remittent fever. There is no record of the treatment till the 11th day. The convent had had a reputation for illness, and shortly afterwards two sisters fell ill, again with remittent fever; but on this occasion symptoms of sewage gas poisoning manifested themselves. Typhoid symptoms supervened, and the patients,

already in a weakened condition, did not rally and succumbed quickly to the disease. It was thought advisable that an examination of the premises be made. It was found that a cesspool communicated, through the pans of the water-closet, which had no traps, with the kitchen and dining-room; also, by means of pipes through the untrapped pans of a water-closet in the second story, the gas had free entrance to the bedrooms. A report was drawn up, the suggestions embodied therein were adopted, and the general health of the sisters has improved.

The second case was that of a strong and robust man, aged 36 years, who complained of fever and general malaise. His temperature was not very high— $102^{\circ}.8$ F.,—but it persisted in remaining up; it, however, fell on increasing the dose of quinine, and with the exhibition of 80 grains in a day cinchonism was not produced.

The third patient was a girl, aged $2\frac{3}{4}$ years, born in China. I may say in 1897 she had another attack. She was lying in bed, when suddenly she became very ill, gasped for breath, eyes were staring, body convulsed, and lips cyanosed. The temperature in the axilla was $105^{\circ}.6$ F. She was sponged with cold water till a wet pack was got ready. The cold water relieved her, the cheeks became flushed, the breathing easier. The wet pack reduced the temperature, and was repeated as necessary, then quinine given. I considered her condition simply as a manifestation of the malarial fever.

The fourth patient was a female, aged 27 years. I was called at noon and found the temperature $101^{\circ}.2$ F. I delayed treatment. At 3 P.M. the temperature was $103^{\circ}.8$ F.; at 5 P.M., $105^{\circ}.4$ F. It was thought advisable to delay no longer, and quinine was given.

I have several times seen a similar attack in the course of other diseases, which passed off in a few hours.

The most common types of fever amongst the natives are the secondary and tertian, and occasionally a quartan is got. The commonest sequelæ are—

- (a.) Anæmia—patients complain of headache, palpitation, weakness.
- (b.) General anasarca.
- (c.) Peripheral neuritis.

Several chronic malarial conditions have appeared amongst the natives, showing ague-cake spleens reaching forward to the umbilicus and down to the crest of the ilium. One child, aged 2 years, had a markedly enlarged spleen and was subject to frequent attacks of ague.

Influenza.—Influenza has been common. It usually manifests itself by pains in the back; headache; fever, 102° – 103° F.; pulse, 110–130. It yields to antipyretics—*e.g.*, phenazonum or phenacetin. Quinine has no effect on the temperature.

Epidemic (?).—In 1897 an epidemic raged here as elsewhere in the Yangtze Valley, and carried off the natives by scores. I did not see any cases amongst them, but I was called one day to the convent to see one of the sisters who was reported to have this disease. I found her lying in a comatose condition, and got a history that such attacks were intermittent. She had lucid intervals, became quite conscious, talked rationally, then suddenly, without warning, she would become unconscious; twitchings of the facial muscles would begin and convulsive movements of the limbs; the lips became cyanosed; she became delirious, then comatose. She was nourished by the mouth and by rectal enemata. Quinine was given in solution per rectum.

One day her temperature suddenly rose to over 105° F. She was comatose. A cold bath was ordered; the temperature fell to 102° F. When the temperature went up, this was repeated in half an hour, and it fell to 101°.5 F. The administration of quinine was continued. The crisis was past and she gradually recovered. For a long time she had symptoms of peripheral neuritis, but these cleared off in time.

Mixed Fever (?).—This seems to be a combination of influenza and malaria, acting upon and modifying the course of each other. The temperature seldom rises above 103°.8 F.; there may be no variation during the course of the day, and in the evening a slight fall. The pulse varies from 110 to 90 per minute. It is not acted on readily, if at all, by antipyretics, and runs a usual course of from three to four weeks.

Dysentery.—Several cases of acute dysentery have been treated amongst foreigners, and almost all have yielded to the saline (sulphate of soda) treatment. It has also proved serviceable in cases of straining with passage of blood and mucus, when the stools were not of the typical dysenteric type. It has failed in some cases, however, in which ipecacuanha gave relief. One case of a baby, about one year old, who had straining with blood and mucus, yielded only to Ringer's treatment, viz., 1 grain of the bichloride of mercury dissolved in half a pint of water, and a teaspoonful given every hour.

Diarrhœa.—One case of diarrhœa only need be mentioned. A lady had recently come from England, where she enjoyed the best of health. When she reached Singapore she was attacked with diarrhœa. She spent some months at different places and got medicines that temporarily checked the disease. On her arrival here she had a recurrence of the disease. Relaxation of the intestinal wall was supposed to be the cause, and a strychnine mixture was administered, with the result that in a week she felt much better and in a fortnight was perfectly well. She kept well for months afterwards.

Inflammation and Ulceration of Lower Bowel.—A male patient, aged 35 years, strong and healthy, suffered from frequency of stools with straining and passage of blood and mucus and shreds of intestinal wall. The cause was looked for in the fact that he had been swimming in fresh water for some hours and had been during that time exposed to the sun. His back was scorched and the skin desquamated. At first the bowel condition was neglected. He was ordered to bed, had an aperient administered, and opium freely exhibited. He was troubled with insomnia; had severe griping pains that led to the desire to go to stool; and complained of pain and tenderness in the region of the sigmoid flexure and, in a less degree, in the right groin in the ileo cæcal region. To induce sleep one night he had a hypodermic injection of $\frac{1}{2}$ grain of sulphate of morphia and $\frac{1}{8}$ grain of sulphate of atropine, followed by 1 drachm of tincture of opium (B. P.), every three hours for three times; and this had no effect. His temperature varied from 98°.6 to 101° F., his pulse usually 120–130. His urine had bile in it, otherwise normal. The bowel was washed out by means of the rectal tube with a weak solution of permanganate of potash. His diet was milk and soda-water. After six weeks' treatment the condition improved—the pains occurred but seldom and the stools were copious but still showed a trace of blood. He was allowed to get up. He kept well for a fortnight, when he had a relapse. He was again kept in bed, the opium treatment resumed, likewise the washing out of the bowel morning and evening. He steadily improved and is now well.

The following table is given to show the loss of weight that may arise through climatic causes. During the months mentioned the patient was under treatment and taking tonics (cod-liver oil, etc.). The patient is 24 years old, and strong and healthy otherwise.

MONTH.	1897.	1898.
	lb.	lb.
March	142	147
April	137	142
May	131	140
June	129	135
July	124	131
August	120	129
September	118	122 (3rd Sept.)
		120 (8th Sept.)

During the period under review the following have been the principal surgical operations performed:—

- (1.) For rupture of perinæum, including external and intestinal sphincters of the anus of one year's standing.
- (2.) Removal of necrosed shaft of tibia.
- (3.) Amputation of penis for epithelioma.
- (4.) For perforating stab of right thigh, which missed the femoral artery by a hair's breadth; also large gash in left thigh. The patient (a native) was reported to have lost a pailful and a half of blood before he was brought to me.
- (5.) For internal hæmorrhoids.
- (6.) For fatty tumours.
- (7.) For rupture of abdominal wall and extrusion of intestines.

Case No. 7 occurred in a native about 16 years of age. He was an apprentice in a com-prador's shop, and was one morning engaged in taking soda-water bottles from a box 4 feet from the ground. He was standing on a chair and slipped, fell among the bottles, and somehow opened his abdomen, piercing the peritonæum and allowing 1½ feet of bowel to escape. I saw him in the native house about two hours after the accident. The bowel was distended. The boy was chloroformed, the bowel gently washed with a weak antiseptic solution, and an attempt made to replace; but it was found impossible to replace it as it was grasped at the inner opening in the transversalis fascia. The forefinger of the left hand was introduced into the wound, and, with a scalpel resting on this, the wound was enlarged. The bowel was replaced. As I had misunderstood the native who told me of the accident, I had simply a pocket-book and chloroform with me. It was impossible to attempt to wash out the peritoneal cavity, and it was not thought advisable to drain. Three deep stitches (silk), including the whole thickness of the abdominal wall, were put in. On the 2nd day the temperature went up to 100° F.; on the 4th day it was 102.2 F., and the wound showed signs of redness and fluctuation. The stitches were removed and pus oozed out. No further trouble followed. The wound granulated and healed in five weeks. It seems to me that before this suppuration occurred the wound in the deeper parts had healed, and thus peritonitis was prevented. In this case, it may be further noted, there was no washing out and no drainage used.

(8.) Chronic abscess of the liver.

This case was that of a farmer, aged 40 years, emaciated and jaundiced looking, who came complaining of constant discharge of pus from the right side. It presented the signs of a cavity periodically filling and emptying. He was chloroformed, and a sinus, extending from the eighth to the tenth rib, was laid open. A probe, bent at right angle, found its way into the abscess cavity. A free incision was made in the intercostal space between the eighth and ninth ribs, and several ounces of pus came out. A probe, 5 inches long, just touched the bottom of the cavity and moved freely about in it. A drainage tube was put in for a week, when it was withdrawn and the wound healed up. The patient then returned home and I have heard nothing of him since. The previous history was: a year before he had an enormous swelling over the lower half of the right side. This swelling gradually came to a head and burst, discharging pus freely. Since that time the discharge had been going on more or less.

The accompanying abstract is from the meteorological observations taken at the Custom House.

METEOROLOGICAL TABLE, April 1896 to September 1898.

MONTH.	THERMOMETER.				BAROMETER.		RAINFALL.	
	Highest.	Lowest.	Average Highest.	Average Lowest.	Highest.	Lowest.	No. of Hours.	Quantity.
1896.	° F.	° F.	° F.	° F.	Inches.	Inches.		Inches.
April	97	45	69.5	55.3	30.18	29.45	80.0	4.82
May	95	51	79.4	62.2	30.18	29.57	67.0	4.99
June	100	65	91.0	73.6	29.95	29.50	40.5	3.10
July	102	60	89.6	75.7	29.76	29.50	68.5	5.46
August	105	68	93.3	77.4	29.85	29.50	106.5	13.30
September	92	64	79.4	69.0	30.00	29.62	78.0	4.28
October	82	51	72.2	60.2	30.30	29.88	72.5	2.35
November	84	47	69.0	54.0	30.28	29.83	35.0	1.01
December	68	26	52.9	38.6	30.78	29.85	17.0	0.58
1897.								
January	60	31	45.9	37.0	30.45	29.83	44.5	1.17
February	65	29	49.8	35.5	30.50	29.87
March	69	36	54.3	43.7	30.34	29.84	123.0	3.58
April	85	41	71.5	54.2	30.21	29.60	83.0	5.56
May	90	53	77.7	63.3	29.97	29.45	118.0	10.58
June	95	64	86.3	72.8	29.90	29.38	45.0	2.50
July	102	68	90.4	75.0	29.75	29.36	101.0	16.92
August	107	71	94.4	77.9	29.85	29.45	61.5	5.52
September	92	62	80.4	68.5	30.13	29.70	136.5	8.04
October	86	55	73.5	60.6	30.30	29.90	73.0	2.37
November	81	37	66.4	50.8	30.40	29.85	49.0	1.88
December	63	29	53.9	35.9	30.57	29.77	7.0	0.11
1898.								
January	60	31	52.4	38.1	30.56	29.83	35.0	1.11
February	70	31	53.8	40.0	30.26	29.64	43.0	1.67
March	85	30	55.5	40.8	30.36	29.59	24.0	0.71
April	94	39	72.2	54.2	30.30	29.51	63.0	3.34
May	94	58	79.3	64.8	29.86	29.30	120.0	6.24
June	101	66	91.2	71.8	29.79	29.14	75.0	8.70
July	109	69	98.0	77.5	29.65	29.28	34.0	7.48
August	106	68	96.9	76.2	29.72	29.34	38.5	5.65
September	100	60	83.3	69.7	29.93	29.56	73.0	7.50

DR. F. T. D. CLINDENING'S REPORT ON THE HEALTH OF KIUKIANG

For the Nine Months ended 30th September 1898.

I ARRIVED at Kiukiang on the 2nd January 1898, and took over the practice of the late Dr. UNDERWOOD, who died in the previous August. Pending my arrival, Dr. TILSLEY, of the Hebron Mission, carried on the practice on behalf of the widow of the late surgeon.

Having had little experience of foreign settlements in China, I cannot personally compare this one with others from a sanitary point of view; but after reading the *Medical Reports*, I think it has many advantages that others lack. The Concession is well and compactly laid out, separated from the Chinese town and suburbs by a high wall, and no Chinese, with the exception of the servants of the hong and residents, permitted to live within it. Being situated above the Chinese town, the water supply is obtained from the river free of much pollution. The soil and subsoil are porous and, consequently, both the soakage and evaporation rapid. This, I think, accounts for the immunity from malaria (directly contracted in the Concession), which seems to be prevalent in other ports on the Yangtze and elsewhere in China.

The Concession is, unfortunately, completely surrounded on the land side by very filthy Chinese streets and buildings, and the benefits and pleasure to be obtained from walks in the surrounding pleasant country are greatly marred by having to pass through the numerous smells and abhorring sights pertaining to a Chinese town.

The Concession also, unfortunately, lacks efficient drainage, especially at the back. The drains from most of the houses in the back streets emptied into an old pond, which early in the year was reclaimed and filled in for the purpose of building on and making new recreation grounds. These drains, being blocked at one end, are not unlikely to be a source of danger to the health of the Settlement, owing to the accumulation of polluted matter within them. I made a report on this matter to the Municipal Council some time back, and a meeting of the land renters was called, but no further steps have been taken to alter the existing condition. Some few of the houses have no drains at all. This, together with the thinly-built walls, curtailed area of the rooms, bad ventilation, etc., make many of the habitations more or less unhealthy to live in, especially in the summer time.

During the nine months the health of the foreign residents has been very satisfactory. No sickness attributable to climatic or surrounding influence occurred, and a small outbreak of chicken-pox in March and April was the only epidemic.

Three male (one still-born) and two female children were born.

Two of the obstetric cases were exceedingly difficult—one owing to abnormal presentation and large size of the child, the other to repeated hæmorrhages occurring for six weeks before and up to the time of birth. Both cases were instrumental.

Three deaths occurred—one from dysentery, one child from summer diarrhœa, and a quartermaster (from Messrs. JARDINE, MATHESON, & Co.'s steamer) from double pneumonia.

Among other cases treated were—

Double pneumonia in a missionary lady, whose temperature reached 106° F. and whose condition was most critical before medical advice was sought. She made a satisfactory recovery after a protracted illness and convalescence.

Pneumonia, which after recovery was followed by pleurisy, owing to indiscretion during inclement weather.

Acute bronchitis.

Six old standing cases of disease of the ear with perforation of the tympanum.

Nine cases of suppuration in the ear, all being cured without complication.

Rheumatism, one acute and two chronic.

Gout.

Enteric fever, probably contracted in Shanghai, as the patient had only arrived here the day before he was taken ill. It was a mild case with rapid recovery.

Diarrhœa, six cases.

Syphilis.

Gonorrhœa.

Neuralgia.

Malarial fever, two cases, contracted originally elsewhere.

Dyspepsia.

Cystitis and stone in the bladder. The stone was removed at Shanghai by

Dr. ZEDELICUS.

Conjunctivitis.

Eczema.

Herniæ, three cases, all reducible.

Sprained knee.

Sunstroke. The patient recovered only after the cessation of the heat, and I think it will be wise for him to move from this port and not risk another summer.

It is unnecessary to speak of the innumerable minor cases which come under treatment.

I can only give a very small report of illness among the Chinese. In addition to an extensive private practice among them, the late surgeon had sole honorary medical charge of the hospital, which is conducted by the French Sisters of Charity; but on my arrival here a new arrangement was made, by which, for a retaining fee, I only attend at the hospital when sent for to those cases which the sisters consider are beyond their skill. I myself would much prefer honorary charge, as under the present conditions (which were insisted on by the sisters themselves) I am unable to see many diseases, give the results of treatment, or undertake any methods of scientific research.

Among the few cases I was called upon to treat were—

Seven cases of opium poisoning with two deaths.

Three cases of frost-bitten gangrene of the lower extremities. In one case the feet dropped off at the ankle-joint, and when the line of demarcation was completely formed, I performed a double amputation of both legs at the junction of the lower and middle thirds, with most satisfactory results. The patient made an uninterrupted recovery, both stumps healed rapidly and were well formed.

Enlarged glands. In several cases removed by operation; many cases of malignant disease generally so far advanced that nothing could be done.

Eight cases of nasal polypi. Removed with snare.

Fracture of humerus.

Fracture of the forearm.

Fracture of the tibia and fibula.

Paracentesis abdominis I performed three times.

Syphilis. This is very common in the surrounding district.

Fever (which, I believe, was much more prevalent and fatal than usual this year), bronchitis, pneumonia, ulcers of all kinds, skin diseases (tinea and scabies predominating), etc., were all treated and cared for by the sisters.

The summer that has just passed has been very prolonged and trying, and, after studying the meteorological records, I think is the longest and driest recorded. It commenced in May and was not finished on the 30th September. The heat of July and early August was dry and healthy, but I can only apply the term "malignant" to the heat of late August and September. In the latter month the thermometer registered up to 100° F. in the true shade, and the daily mean for the month was 89°.1 F., being higher by 3° than any previous record I can find. The temperature of the houses (which are always kept open) in the Concession reached as high as 96° to 98° F. in July and August; but it may be interesting to note that by closing the house during the heat of the day, the temperature can be kept far below this. All the doors, windows, and shutters of our house were closed at 8 o'clock in the morning and opened again about 5 P.M. for the night, and the temperature in our lower rooms never rose above 88° F., and the mean for the two months was 85°.6 F. This may perhaps be a guide to the residents in this and other hot ports.

Most of the ladies and children, and as many of the male element as could get away from business, spent the summer either at the bungalows at the foot of the Lushan Hills or at Kuling, nearer the summit. I, unfortunately, was unable to visit Kuling and judge of its surroundings and climate; but many of my brother professionals, who have made a stay there, report most favourably on it. Nearly 600 people visited it during the summer and made a more or less prolonged stay; and it promises to become the summer resort for the residents of the Yangtze Valley and, possibly, the largest sanatorium in China.

The following is an abstract of the meteorological observations as recorded at the Custom House.

METEOROLOGICAL TABLE, January to September 1898.

MONTH.	THERMOMETER (True Shade).				BAROMETER.		RAINFALL.
	Maximum.		Minimum.		Maximum.	Minimum.	
	Highest.	Lowest.	Highest.	Lowest.			
	° F.	° F.	° F.	° F.	Inches.	Inches.	Inches.
January.....	62.0	42	48	29	30.716	30.042	1.71
February.....	64.0	44	48	30	30.422	29.742	1.97
March.....	69.0	38	57	30	30.472	29.782	4.56
April.....	95.0	55	70	42	30.472	29.718	5.32
May.....	92.0	63	71	57	30.124	29.540	4.10
June.....	96.0	75	79	66	29.948	29.517	5.85
July.....	105.0	81	85	79	29.950	29.702	1.48
August.....	104.6	85	83	72	29.972	29.434	2.15
September.....	100.0	73	81	67	30.132	29.780	0.47

NOTE.—The total rainfall from 1st June to 30th September was 9.95 inches—being 4 inches less than any previous record I can find for corresponding periods.

DR. J. A. LYNCH'S REPORT ON THE HEALTH OF CHINKIANG

For the Year ended 30th September 1898.

DURING the very mild winter of 1897-98 there were few cases of illness in the foreign community. One death has to be recorded, in January, from old-standing Bright's disease, complicated with mitral insufficiency. In the same month a case of influenza came under treatment. Though unaccompanied by serious organic lesion of any kind, it ran an exceedingly tedious course. At the end of three months the patient was still in a feeble, listless, anæmic condition. Change of residence to another port brought little improvement; and ultimately a voyage to Europe was found imperative.

In the early spring months there was a good deal of typhus fever among the native population. One foreigner, living in a Chinese quarter, caught the infection and died after 11 days' illness. The usual spring outbreak of small-pox was this year more widespread and of a more virulent type than I have ever known it; and this disease likewise carried off a European victim in the month of May. He was a healthy young man of 25, believed to have gone through a mild attack of variola in infancy (the cicatrices were more suggestive of varicella), on the strength of which he had been assured by a high medical authority that he was perfectly immune, and in no need of vaccination! Although the attack was one of great severity, with continuous high fever and delirium, nourishment was well taken, and every hope was entertained of a favourable issue till the 11th day of the eruption, when he died of heart failure.

Without vaccination, and re-vaccination, nobody in China is secure against small-pox. But the fact of our possessing a preventive so simple, so efficient, and so universally within reach is probably enough to account for its so frequent neglect.

The summer here as elsewhere in North China was excessively hot and dry. A number of residents took refuge in Kuling and other health resorts; but those who remained behind enjoyed, for the most part, a very satisfactory measure of health. The diseases usually so characteristic of this season were remarkable for their absence. Among the most serious affections observed were some intractable cases of boils. In the native city cholera seems to have been completely absent.

September, however, brought a large contingent of malaria and one fatal case of typhoid.

Four births took place during the twelvemonth under review.

For the meteorological record I am indebted to the courtesy of Captain C. H. PALMER, Harbour Master.

METEOROLOGICAL TABLE, October 1897 to September 1898.

MONTH.	BAROMETER.		THERMOMETER.			Rainfall.	TIDES.	
	Highest.	Lowest.	Highest.	Lowest.	Mean.		Highest.	Lowest.
1897.	<i>Inches.</i>	<i>Inches.</i>	<i>° F.</i>	<i>° F.</i>	<i>° F.</i>	<i>Inches.</i>	<i>Ft. in.</i>	<i>Ft. in.</i>
October	30.37	29.90	77	49	64.6	0.83	17 2	13 8
November	30.56	29.96	78	31	54.0	1.91	15 3	10 3
December	30.72	30.06	59	24	39.0	...	12 4	4 4
1898.								
January	30.69	30.15	53	25	38.6	1.73	7 11	2 5
February	30.42	29.85	57	30	40.9	3.13	9 10	2 0
March	30.52	29.80	64	25	39.7	3.60	9 5	2 10
April	30.51	29.75	80	37	56.4	1.99	10 10	4 5
May	30.15	29.58	83	50	62.5	10.75	13 10	6 1
June	29.97	29.48	94	65	75.3	4.48	14 11	11 1
July	29.95	29.93	100	73	87.0	17.77	16 4	11 5
August	29.96	29.45	95	71	84.9	3.50	16 3	11 3
September	30.15	29.83	92	62	76.0	2.46	16 6	13 1

DR. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 30th September 1898.

THE health of the foreign community has been fair. There have been no deaths and no epidemics.

The summer was long, dry, and healthy; the nights not being excessively hot.

The most prevalent diseases were: intermittent fever, malaria, dysentery of a mild type, diarrhoea, and dyspepsia. The diseases most worthy of comment are the following:—

1.—A case of intermittent fever (yielding readily to quinine), in which the temperature rose to an unusual height— 106° F.—and in which the rigors of the cold stage were very severe.

During most attacks a general erythematous eruption appeared at the height of the hot stage, followed by marked œdema of the lower limbs, and ending in desquamation, the skin peeling off in large flakes and scales, and the process not being complete for some weeks after the subsidence of the fever, the palms of the hands being always the last to recover. The urine was examined and found free of all trace of albumen and tube casts. It is well known that quinine may cause an erythematous rash in some persons, and in this case perhaps the high temperature *plus* the quinine was accountable for the rash.

2.—Another case of interest was one of purpura, followed by subacute rheumatic fever. The purpuric spots were extremely abundant over the whole body, but there was no epistaxis and no hæmorrhagic spots on the mucous membrane of the mouth, and there was no hæmatemesis or blood passed by the rectum, but there was well marked hæmaturia. The temperature maintained a steady course of 101° – 102° F., and showed no marked variations between the morning and evening readings. The eruption declined in the course of a few days, when the rheumatic aspect became the most marked feature of the case, the pain and swelling of the joints and limbs becoming very much worse.

The case was a tedious one, the patient ultimately going into hospital at Shanghai, where he remained for over six weeks. The total duration of the illness was about two and a half months.

DR. ALFRED HOGG'S REPORT ON THE HEALTH OF WENCHOW

For the Year ended 30th September 1898.

DURING the period under review the health of the foreign community has been, on the whole, very good, with the exception of the end of 1897. There have been fewer cases of illness, and these of a less serious nature.

This summer has been a cool one compared with others, and as we were without the usual heavy rains of May and June, there was very little of the close damp weather so prevalent during these months.

The most distressing event in one's practice was the death of a lady very much esteemed in the community, the result of confinement following on dysenteric diarrhœa.

Medical advice was sought for, about the end of October, for symptoms pointing to proctites and internal hæmorrhoids consequent on pregnancy. Irregular diarrhœa and occasional touches of hæmorrhage persisted in spite of various remedies, gradually increasing in severity till finally they assumed somewhat of a dysenteric character, greatly reducing the patient, so that grave fears were entertained for the result. These were, unhappily, justified by the end of November, when, on the 26th, the patient was prematurely confined and delivered of a male child, who survived for 30 hours. The patient rallied somewhat after the ordeal, but the diarrhœa still continued, and she succumbed on the 29th.

There was one other birth, a healthy male child, the subject being a primipara who came in from an out-station to be confined. The labour was normal and tedious, and necessitated chloroform.

Among the cases treated in the ordinary course of work were as below :—

Amenorrhœa.	Iritis.
Ascarides.	Laryngitis.
Atonic dyspepsia.	Lupus exedens.
Boils.	Malarial fever.
Constipation.	Measles.
Diarrhœa.	Otorrhœa.
Dysmenorrhœa.	Ovaritis.
Enteritis.	Pregnancy.
Febricula.	Psoriasis.
Fracture of clavicle.	Renal colic.
Gout.	Rheumatism.
Hepatic dyspepsia.	Sprain of ankle.
Incised wound of palm.	Syncope.
Internal hæmorrhoids.	

During the temporary absence of the writer from the port there occurred a rice riot, but none of the foreigners were molested.

Dr. KIRK, who was in the port for a short time, rendered much assistance in the medical work, and his presence was much appreciated at operations in the hospital.

A large amount of practice amongst the Chinese has been carried on at the Methodist Free Church Hospital and dispensary, involving much minor surgery.

I am indebted to the kindness of the Harbour Master, Mr. KINDBLAD, for the meteorological report appended.

METEOROLOGICAL TABLE, October 1897 to September 1898.

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Maximum.	Minimum.	Maximum.	Minimum.	No. of Days.	Quantity.
1897.	<i>Inches.</i>	<i>Inches.</i>	<i>° F.</i>	<i>° F.</i>		<i>Inches.</i>
October.....	30.384	30.052	82	54	18	5.64
November.....	30.544	30.100	82	40	5	1.88
December.....	30.654	30.150	67	33	7	1.26
1898.						
January.....	30.734	30.130	65	33	9	1.02
February.....	30.420	29.760	69	36	14	5.01
March.....	30.460	29.980	75	36	13	3.01
April.....	30.380	29.700	78	46	16	7.45
May.....	30.410	29.680	87	56	19	6.89
June.....	30.050	29.640	90	60	15	7.99
July.....	30.070	29.800	92	72	5	5.15
August.....	29.980	29.525	93	71	19	15.22
September.....	30.130	29.800	92	69	11	4.96

DR. RODERICK J. J. MACDONALD'S REPORT ON THE HEALTH OF WUCHOW

For the Fourteen Months ended 30th September 1898.

SINCE the opening of the port—4th June 1897—the general health of the foreign community has been satisfactory, although we have been temporarily quartered in temples, boats, wooden hut, gospel halls, shops, and native houses in almost every part of the town and neighbourhood.

RESIDENCES.

Native houses, shops, and gospel halls, from the contiguity of overcrowded Chinese tenements, form a dangerous class of residences. The rest are healthy in proportion as they are removed from malarial swamps and polluted soil.

Temples as Residences.—The temples situated on slopes, even if well drained, would be insufficiently ventilated, owing to the hills at the back. Their porous brick flooring is no adequate protection if the drainage be in any degree defective. The shallow lakes in front, more especially of the Consulate, in the dry season are transformed into fetid black mudflats, very hurtful to health.*

Boats as Residences.—Boats are, theoretically, healthy residences, provided that the bilge be not allowed to accumulate and become foul and that they be anchored in a clean neighbourhood. They are uncomfortably small for bachelors and quite unsuitable for a family. The space on board a boat does not permit the amount of in-door exercise usual in a house ashore, and out-of-door exercise is not always obtainable. In the cold season lack of exercise causes chilliness. The cracks of doors and windows on boats are then pasted up, to exclude the north wind; oil stoves are kept burning. In so confined a space under such conditions the blood suffers from deficient oxygenation. An attack of jaundice seemed partly due to this cause. Again, during the sudden squalls which frequently occur in summer, the southerly winds blowing across the wide river raise waves which violently rock the boat. One child thus suffered two attacks of sea-sickness, and, because boat life disagreed with him, was sent back to Canton.

The boats are anchored near the shore, and not always in the cleanest neighbourhood. When northerly winds blow across the town and its refuse heaps accumulated on the river banks, wind-borne disease is liable to occur on boats, for the intervening strip of water, were it pure, is not of sufficient extent to absorb many germs. The floating population and town drainage pollute the littoral water and render it less effective as a wind-purifying agent. To anchor at a sanitarily safe distance off shore is impracticable, owing, among other reasons, to

* Natives say that 10,000 corpses were flung into this lake in the 7th year of the Emperor HSIEN FENG.

the risk of night collisions between rafts and boats. During the north-eastern monsoon the precaution might be taken to anchor boats used as residences either above the city or further below it. At that time of the year the river flows less rapidly, and the journey between the office and temporary floating residence might be made with but little loss of time.

Wooden Hut.—In the country three occupants of a wooden hut, supported on posts 6 feet above the ground, enjoyed a complete immunity from malarial fevers, to which they had been very subject elsewhere. A mild attack of dysentery in the child drew attention to a defective drain, which being remedied, no other case of dysentery occurred in the household.

Gospel Halls as Residences.—Mr. R. died of confluent small-pox in his house over a preaching-hall inside the city, near the south gate, and was buried, in imitation of the native mode of sepulture, upon a hill just outside the north wall. Small-pox occurred in a house opposite his just before Mr. R. developed the disease. He believed in faith-healing.

Mrs. C.'s health was so seriously undermined by a six months' residence over a gospel hall in the south-eastern suburbs that both she and her husband have left the town and are not expected to return.

Native Houses and Shops as Residences.—Foreigners who live in native houses and shops instinctively prefer the upper stories, and escape much sickness to which natives living on the ground floor are liable. They must expect annual attacks of fever so long as they live in "Chinatown." Their health probably deteriorates in proportion to the length of time spent in-doors breathing the native-house atmosphere. During the period under review, amongst the missionaries, two unmarried ladies and two married couples have left Wuchow, owing to avoidable illnesses contracted by occupying unhealthy houses. The responsible executives apparently prefer to lose valuable agents and, with unnecessary frequency, to pay return passage moneys, rather than, in the first instance, to exercise forethought and expend a little extra in order to secure pure air and healthy houses for all their agents.

Opinion upon the question of the possibility of the acclimatisation of Europeans in tropical countries, which has recently received some attention in England (see *British Medical Journal*, 30th April 1898, p. 1,167 *et seq.*), has been unfavourably influenced, owing, partly, to the mistakes which have been made in the choice of localities and residences. For instance, decent people, reared in healthy homes, are so infatuated as to attempt to live in the tropics, in Wuchow, in such slums as nothing, possibly, could induce them to reside in at home. Probably the friends of those who have returned to their native land shattered in health will mistakenly attribute to the tropical climate evils which are largely the result of living in slums. Europeans can never be expected to acclimatise either on malarial plains or in Oriental slums in the tropics. I believe, however, that there are large tracts within the tropics where Europeans might readily acclimatise—*e.g.*, the mountainous country in Kwangtung and Kwangsi, in the vicinity of the noble West River. Whilst our people in the town are, I am afraid, absorbing the seeds of fell diseases, which are destined to entail a long train of subsequent troubles, but a couple of bowshots from the city, just across the Cassia River, the balmy breezes of the hill country invite them to live in a pure and healthy air, where children might have rosy cheeks the whole year round. Granted houses on the hilltops, and I am confident that Europeans might enjoy robust health at Wuchow.

Hilltops most suitable for Residences.—The Chinese city, like all I have ever seen or heard of in Cathay, is an overcrowded, unsanitary slum, in which it would be futile for Europeans to attempt to retain health and utter folly to attempt to rear their families. Wuchow suburbs are all liable to floods, the river having an extreme rise and fall of about 75 feet. In this whole neighbourhood the hills approach so closely to the river that along its banks, except where the city stands, there is hardly any available building land not liable to floods. Flooded tracts are unsuitable sites for Europeans' dwellings. There remain then for consideration the hill sites. These may be divided into two classes—those which I choose to style Chinese temple sites and hilltop sites. Temples in this part of the world are frequently (*a*) perched on precipitous hillsides, and (*b*) closely embowered amidst trees in mountain valleys. When placed on the hillside the inner chamber of the temple is, in some instances, partially excavated in the rock, the semi-troglodyte Buddhist priest clinging tenaciously to prehistoric habits. Such a site is unsuitable for a residence. In order to avoid the expense of quarrying an extensive site on the precipitous hillside, the premises would probably be constructed on too contracted a scale. Ventilation would be restricted whenever the wind happened to be behind the hill; the back rooms would be oppressively hot at night, the heat absorbed by the rock during the day being radiated upon the house by night.

The mountain-valley site is objectionable, not only on account of imperfect ventilation but also on account of the risk of miasm, generated in lower paddy land in every valley hereabout, in certain states of the wind creeping upwards and immersing the house in its baneful atmosphere. Efficient ventilation is the safeguard, and is, moreover, essential to the comfort of Europeans living at only moderate elevations in the tropics. For when there is any breeze a European lightly clad feels comfortable, though the thermometer be near 90° F.; when the breeze dies, he droops. Practically, on our hilltops there is a continual breeze; and in houses built there I suppose the thermometer would seldom or never reach 90° F. in the shade. Blankets would be necessary, even in the height of summer; mosquitoes rarely seen; punkahs superfluous. Within their houses the comfort of foreigners would be complete.

The Western Hills superior to all others as Sites.—To attain hilltop sites on the southern range, one must ascend to a higher elevation, where mist more frequently rests. The river, three-quarters of a mile wide, and a long hill climb would intervene between business offices and residences. The eastern hills, of moderate altitude, will afford hilltop sites for two or three houses after a sum of money has been expended in levelling. In that direction few walks are to be had. But across the Fu River there are the western hills, of moderate elevation—400 feet, some higher, some lower,—two of which have been already partially levelled for encampments, sufficient for all present requirements of the foreign community; whose plateaux are wind-swept whichever way the wind blows; where mist is seldom seen to rest; whence are obtained bird's-eye views of the whole city and harbour and of long reaches of the West and Fu Rivers and picturesque mountain ranges; and in whose vicinity are extensive walks. The British Consulate is to be built there, and also, I trust, the Commissioner's residence. In the interests of the health and comfort of the Customs staff, I would respectfully urge that the building of houses on hilltops for them be commenced forthwith.

FOOD SUPPLY.

Milk.—A small dairy was opened at the beginning of October 1897 with a couple of Hongkong cows. The dairy is located in a dwelling-house in the river-side street, eastern suburbs. The cowshed is plank-floored, raised on posts over the river bank. By this accident, rather than by design, tolerably free ventilation is obtained. The rinderpest, which wrought havoc in the dairies of Canton and Hongkong, did not appear in this dairy. The drainage of the dairy flows through the crevices of the plank flooring on to the mud bank below. The dairyman pleads poverty as the reason why he neither concretes the mud bank nor removes to properly constructed premises in the country suitable for the business.

Examination of a Sample of the Milk as supplied to Customers, 10th August 1898.—The milk is put up in old beer bottles badly corked. Morning milk examined at 8 A.M.; thermometer standing at 81° F. Reaction: neutral. Specific gravity: 1010 (normal specific gravity: 1032). Weight of 100 c.c. sample: 98.63 grammes. Cream in 100 c.c. is 8.5 c.c. (normal: 11–13). Total solids in 100 c.c.: 6.68 grammes (normal: 11.5 grammes). Specific gravity after filtration also 1010.

There are in 100 c.c. of the sample, judging by the contained—	Per-centage of Milk.	Per-centage of Water.	TOTAL.
Cream	65.3	34.7	100
Solids	58.0	42.0	100
And by the specific gravity	Less than 50.0	More than 50.0	100

These results all point to the conclusion that the milk has been diluted with a very large per-centage of water. It is said to be a mixture of milk, buffalo milk, and water.

Chemically, the sample was tested for starch, but none found in it. Microscopically, oil globules and scattered epithelial cells—normal constituents; some bacilli and micrococci, probably introduced with the admixed water; no blood or pus cells, no lacteal casts, no tubercle bacilli: the cows are therefore healthy; no starch grains.

This milk should be boiled before use. Price: 12 bottles, each containing 12 ounces, cost \$1.

Meat.—In December 1897 the local magistrate granted a butcher permission to kill one cow daily, free of taxation, for the supply of the Europeans at the port. A temporary butchery was constructed, having an imperfectly-laid concrete floor and a surface drain or two. The neighbourhood is pretty fair for China; it is the outskirts of a suburb, but there are filthy dwellings and latrines close by. The butcher, when urged to construct premises suitable for the business, pleads poverty. Kwangsi cows, in herds of about 30 at a time, are brought in boat from Kwaiping, and, being allowed to graze on shore at intervals. *en route*, usually arrive in good condition.

Complaints have reached me from time to time that diseased cows and ponies were being killed for food. One man avers that he has sold six sickly cows to the butcher. The meat is also said to be sometimes rendered heavier by the injection of water (impure) through an incision in the left ventricle of the heart. That supplied to me has sometimes been unfit for food. Buffalo flesh is substituted for beef. Price: the meat is sold to us at 10 cents a catty.

Inspection of Meat and Milk.—The slaughter-house is distant about a couple of miles from my house, and, as the meat is killed at 5 A.M., I have not found it practicable to attempt thorough inspection. From time to time I have visited both dairy and butchery, but confess that such inspection is almost valueless. Seeing that good meat and pure milk are necessary to the health of consumers, and that the existing supply of these two articles is altogether unsatisfactory, I recommend, if it be at all feasible, that the foreign community construct its own butchery and dairy, lease the premises, and obtain thorough inspection.

Water.—The sources of water used for drinking purposes here are the West River, the Fu River, the rainfall, the *Ping Tsing* and other wells, springs, and Hongkong water from ships. No complete examination of these various waters has yet been made here. In the opinion of the natives the water of the *Ping Tsing* (冰井) (Icy Well) is the best in Wuchow. It is the well from which the British Consul's and the Commissioner's supply is drawn.

Examination of Icy Well (冰井) Water, 28th July 1898.—Colour: clear. Smell: none; on heating, none. Floating particles after subsidence: few. Nessler's test: no brown or yellow precipitate, therefore no ammonia; no milky precipitate, therefore water not hard. Nitrites: H_2SO_4 , KI, starch; no blue tint, therefore none. Nitrates (Horsley's test): no reaction, therefore none. Chlorides = .5 grain per gallon.

Mineral matter: sand; vegetable products: cotton fibres, woody fibre; animal products: portions of dead insects; bacteria, bacillus ulna, B. subtilis, oscillatoria autumnalis, siphonacea, confervaceæ, diatomaceæ, stauroneis acuta, frustulia saxonica, ciliata, rotifera, etc., show that the water of this famous well is in character like a diluted pond water. The bacteria have not been quantitatively determined, but, from general considerations, may be expected to be numerous. Plate cultivations would also probably reveal virulent forms of pathogenic organisms, such as Eberth's bacillus or Koch's spirillum, seeing that typhoid and cholera occur in the town.

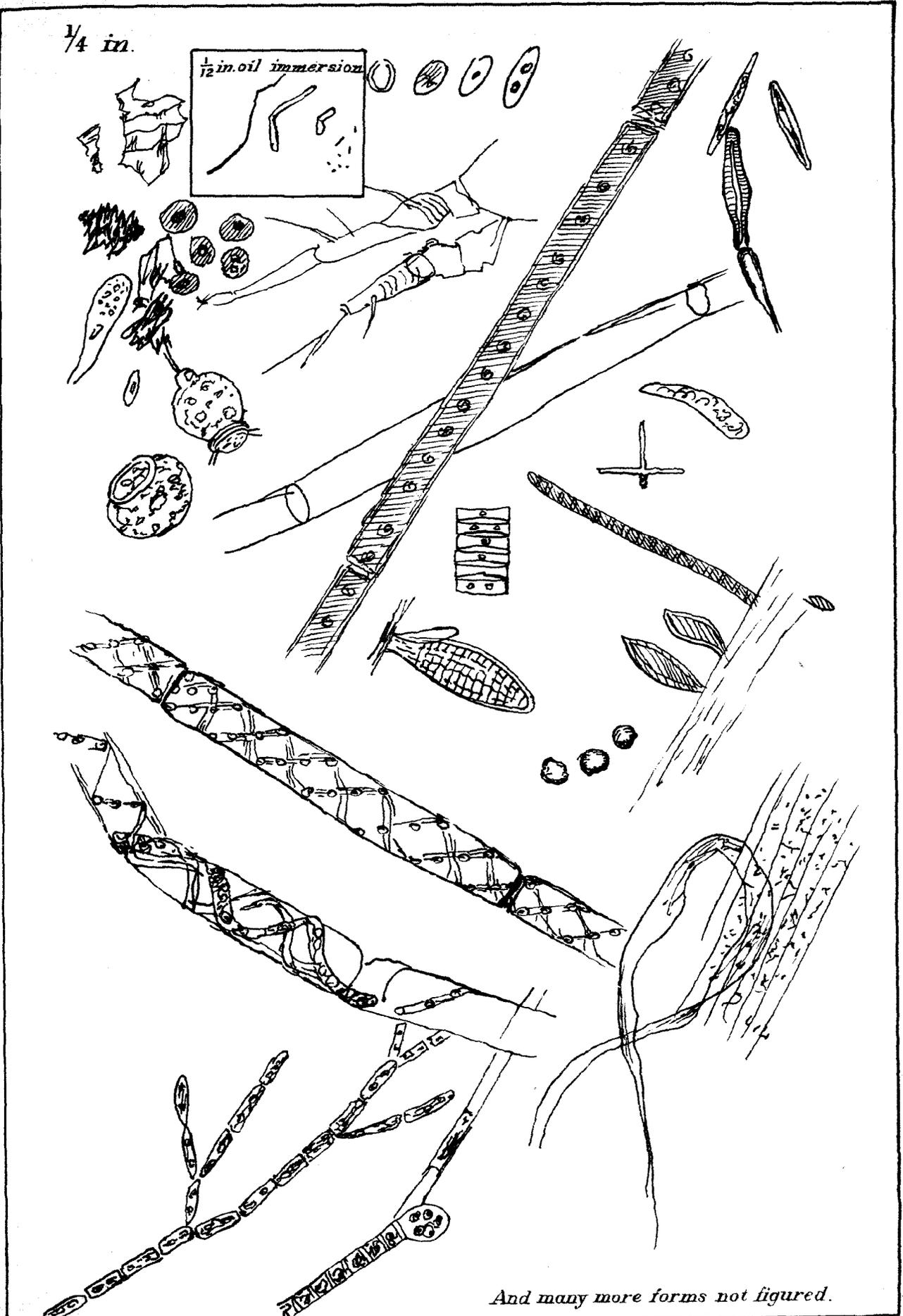
The well is not cement lined. Within a few yards passes a brook, the effluent of paddy fields cultivated with sewage, which has opportunity of finding access to the well. The water which fills its deep-seated spring has percolated through the soil of a hill which is used as a burying ground. A cartoon of this well would illustrate the reckless indifference of the authorities to the health of the township. It would picture a shower falling upon a hillside, seen in section, the water flowing through a broken coffin into the Icy Well; in the plain, an agriculturalist ladling sewage upon the fields, and an effluent from the fields trickling into the well; a stream of people descending to draw water, wash their feet and dirty buckets in the well. Most of the water is boiled before use, by which means evil consequences are usually avoided; sometimes the boiling is only partial: the cycle is then completed by picturing a sick-chamber, with cholera or typhoid patient dying from the effects of using unboiled Icy Well water, and, subsequently, a funeral procession proceeding to bury the diseased corpse in the Icy Well hill.

For a complete examination of the valuable supplies of water in the West and Fu Rivers, it would be advisable to enlist the services of an expert. There is a marked difference in the appearance of the two rivers: the water of the West River is muddy; that of the Fu River beautifully clear.

MICROSCOPIC EXAMINATION.

$\frac{1}{4}$ in.

$\frac{1}{12}$ in. oil immersion



And many more forms not figured.

The obvious lesson to be drawn from any consideration of the water supplies of Wuchow is that, whatever its source, all water should be thoroughly boiled and filtered before being used for drinking purposes.

CEMETERY.

As yet the foreign community has no cemetery.

STATE OF THE TOWN.

Execrable! The following comments are offered with an apology for broaching distasteful subjects.

Streets.—The streets are not wide enough for the traffic. The public comfort and convenience are not sufficiently consulted. When the people are marketing, before the two principal meals of the day, pedestrians are obliged to proceed at snail's pace through the streets, and must submit to be jostled by an unwashed crowd, whose homes and garments without doubt harbour infectious disease.

The narrow streets are further encroached on by tradesmen's stalls. No option has the sensitive individual: he must see butcher's meat, blood, and offal at close quarters each time he walks the street, for these things are thrust under his very nose. Possibly ladies are secluded because the streets are not fit for them to walk in; or, *vice versa*, possibly the streets are filthy because ladies are secluded. Fish tails are purposely allowed to drip over the edge of the stall, where passengers' clothing may be soiled by them. The washings from the stalls drain on to the pavement and must perforce be stepped in. Flies assiduously make trips between the garbage in the gutter and the food exposed upon the stall. It disgusts one to think that food for the table passes through this filthy market.

Pigs are turned into the streets to pick up a living by feeding upon offal. These loathsome scavengers are afterwards sold for food. *Tenia solium*, if not trichiniasis, is said to abound. Occasionally a pig dies in the street and is allowed to lie there until the air is polluted with the gases of decomposition. Slops are suddenly pitched out of open doorways, and even sometimes from upper windows, upon the passengers in the street. The streets are unevenly paved with large ill-fitting stones. Loose blocks may conceal puddles, and when stepped on may squirt liquid filth over the unwary pedestrian's dress. This is not, as might be supposed, a gamin's practical joke: it is simply due to neglect. During heavy rain and in flood time many streets are transformed into open sewers; to save their shoes most people then go bare-foot. Splinters and potsherds lurking at the bottom of these inky streams—more poisonous than the River Styx—wound and inoculate the wader's feet. Ulceration, septicæmia, glandular enlargements, perforating ulcer, and leprosy, perhaps also bubonic plague and other filth diseases, are sometimes acquired in this way.

Street Drains.—These are rudimentary, open drains. They are defective in every respect—neither keeping the pathway dry nor preventing drainage from soaking into the subsoil. There is no uniformity of plan in construction: some are unlined, some lined with broken brick, few having mortar or cement. Most are stopped up by silt; all are broken, dirty, and dangerous. From them may be inferred the condition of the covered drains.

Public Latrines.—These are an abomination. Decency, cleanliness, and health are all sacrificed by gross carelessness and false economy. The ninth precept of the *Sacred Edict* is broken and the fifth too strictly observed.* Although the question of public morals is almost outside the scope of a report on the public health, yet the two subjects are not unrelated; and it may be permissible to point out that the government, whose professed duty it is to instruct the people in morality, by neglecting the public latrines, loses an excellent opportunity of simultaneously improving the public health and morals. How can a people's language be expected to be polite who daily frequent such filthy places? How can the girls preserve modesty who are obliged to see into all the ramshackle public latrines? Does any mother who cares for her children enjoy living in proximity to a Wuchow latrine? Would MENCIUS' mother have lived near such vile places? Simply for lack of thought, and by reason of the dread of spending a few dollars usefully in reconstructing and daily cleaning the public latrines, 40,000 townsfolk are scandalised, demoralised, and diseased.

The Public Latrines Foci of Disease.—The excreta are allowed to fall into badly-constructed pits, which are neither regularly nor frequently cleaned, or into ponds, to become food for carp and tench, which are reared for the table, and the latter habitually eaten raw; or the dejecta fall upon the ground and the pulverised excrementitious matter is wind-borne throughout the town. Food is plentifully besprinkled with it. If Dr. COBBOLD'S opinion, that *ascaris lumbricoides* requires no intermediate host, is correct, the state of the public latrines sufficiently accounts for the almost universal presence of ascarides in Chinese youth. Typhoid, dysentery, and cholera are also doubtless disseminated from these foci of disease. The hand-carriage system of removal of sewage may be, in theory, suitable for a native town; as practised here, however, it constitutes a public nuisance, because entirely unregulated.

Disposal of Rubbish.—Rubbish is dumped on river banks and waste plots. Thence it is re-distributed to the town by aerial agency. In flood time some of it is washed into the river. It is another instance of the prevailing neglect.

Disposal of the Dead.—The dead are buried upon every hill in such fashion as to spoil every landscape and foul every spring of water in the neighbourhood. In defiance of Chinese law, possibly by order of ignorant officials, during the recent rebellion the waters of the West River were defiled with 70 floating corpses at Wuchow. It is remarkable that the Chinese esteem it a breach of decorum to mention "death," yet allow it to be signed in every direction on scarred hillsides and country roadsides, by ugly mounds, exposed urns, unburied and broken coffins, and strewn human bones. Also, that whilst attaching greatest importance to wind and water, *feng-shui* geomancers, by vicious advice, foul both the wind and the water with the corpses of the dead. In spite of the law,† itself not strict enough, which forbids keeping a corpse unburied longer than three months, by geomancers' advice the dead are sometimes kept in

* Ninth: 明禮讓以厚風俗, Illustrate the principles of a polite and yielding carriage in order to improve manners. Fifth: 尚節儉以惜財用, Hold economy in estimation in order to prevent the lavish waste of money.

喪十 庶民三 月而葬 凡有喪 之家必 須依禮 定限安 葬若惑 於風水 及托故 停柩在 家經年 暴露不 葬者杖 八十 棄置水 中者杖 一百 大清律例 新增統 纂集成 卷十六

their coffins amongst the living in dwelling-houses for months, or it may be years, beyond the prescribed limit. The whole community suffers through the depraved habits of degraded neighbours who act thus. Whilst I write a patient of mine is lying ill of fever in a house, next door to which is an unburied coffin containing a corpse several months old. China is disgraced before the whole world, owing to the total neglect of sanitation, more especially in the open ports where foreigners reside and observe. Is it not high time to initiate elementary sanitary reforms in the open ports?

Houses.—The houses are ill ventilated. An Irishman might safely say of most of them that the front and back doors are the only windows they possess. They are dark, damp, and dirty. The floor is often formed of beaten earth only. Phthisis appears to be rapidly on the increase in South China. It may be explained by the fact that phthisical patients expectorate upon the floor, and involve the other inmates of such houses as are described above in the same hopeless case.

Birth and Death Rate.—Unknown! The “parental” mandarins confess that they take no account of the births and deaths in this town.

Precaution against Fire.—In addition to the usual pattern of hand fire-engine and large tubs of water standing in some of the streets, an engine-house has recently been built by the side of the shallow lake opposite the British Consulate. Leaking pipes have been laid in mud throughout the wealthier part of the suburbs. Muddy water can thus be pumped into some streets. The pumping plant, in spite of its faults, demonstrates the existence of a nascent public spirit initiating public works which, when developed, will renovate the town.

Town Water.—This prime natural necessary is laboriously and expensively drawn in buckets from fouled wells and the defiled liquid at the river's brink. Much is lost in transport. The streets near the river are always sloppy with spilled water. Shop hands draw for the shops. In “good” houses the duty of fetching water devolves on slave girls, who may be seen staggering under the heavy burden up 50 feet of slippery river bank. Middle-class houses buy water, according to distance from source, at 3, 4, or 6 cash per load of 60, 75, or 120 catties.

Cost of the Town Water.—Estimating the population at 40,000, the quantity of water used at 5 gallons per head per diem, and the price of water at 4 cash for 10 gallons, the town pays \$29,200 per annum for 200,000 gallons per diem of bad water. Taking Mr. HAWSLEY'S estimate of the cost of town water at home, viz., £12,000 per annum for 1,000,000 gallons per diem, it appears that, by adopting the European methods of water supply, the town may obtain good water and more of it for the same money, viz., 243,333 gallons per diem for \$29,200 per annum.

Washing and Bathing.—Children occasionally bathe in the river. There are no public baths. Is it their fault if the people are dirty; if their queues are full of pediculi and their persons covered with scabies and tinea? Their wretched condition is recognised in the native proverb, “Eleven men out of every ten have the itch.”

Recreation, &c.—There are no public parks, libraries, nor museums. The state of the country paths is so bad that none of the townsmen seem tempted to walk in the country

for health and enjoyment. The pleasures of bicycling, of ricsha rides, and carriage drives are unknown. Horse exercise appears to be confined to military students, about examination time, and inferior officials. The bridge which formerly gave easy access to the country has been allowed to decay and disappear. There is not a sufficient sense of security outside the city walls to permit of tradesmen building houses in beautiful country spots.

This is a joyless town. Melancholy is emphasised by the custom of public wailing. The frequent sound of weeping at the graves, and long nights rendered sleepless by midnight services for the dead, tend to deepen the prevailing gloom. I believe the sufferings of the sick of whole neighbourhoods are aggravated by sleeplessness, caused by noisy midnight services, and that many sick people are frightened to death by shouting, cracker-firing, cymbal-clashing, and drum-beating on the part of the priests, and the loud wailing of the whole household at the crises of disease.

Ignorant priests oppose a serious obstacle to sanitary reform, by receiving and wasting money in the useless idol processions, for instance, organised by them as a means of driving away plague, instead of teaching the people to cleanse the town.

The people are not fond of reading; they attend no stimulating public meetings; they are profoundly ignorant and without resources. This is one cause of the opium habit. The monotony of existence seems to depress their vitality, predispose them to disease, and render them comparatively indifferent to life. In sickness they do not know what careful nursing is. In wealthy houses there are any number of nurses and attendants, none of whom understand nursing. When seriously ill, the poor are liable to collapse suddenly, without making any brave fight for life; the rich frequently change their doctors and medical treatment every two hours, and probably the end is often hastened by excessive medication under this *régime*. Government is responsible for the fact that all the doctors are quacks, and patients are unable to repose confidence in them. There is no school of medicine in Kwangsi, and the doctors are neither examined nor trained.

WUCHOW'S NEEDS.

To sum up, Wuchow needs progressive mandarins, who will favour a comprehensive programme of reform, including—

- (a.) The relaying of all streets with concrete.
- (b.) The repair of all drains.
- (c.) A constant service of good water, drawn from the Fu River several miles above the city.
- (d.) The regulation of public latrines and of the removal of night-soil and rubbish.
- (e.) The banishment of pigs from the streets.
- (f.) Annual returns of births and deaths.
- (g.) The construction of cemeteries and prohibition of burial outside cemeteries, and prohibition of household corpse-hoarding.
- (h.) The opening of public baths, parks, libraries, and museums.

TABULAR MONTHLY VIEW OF DISEASE AT WUCHOW, 1st August 1897 to
30th September 1898.

YEAR.	MONTH.	I. M. CUSTOMS STAFF.				
		FOREIGNERS.				CHINESE.
		Adults.		Children.	Residence.	
		Male.	Female.			
1897	August	Eczema		Mild malarial fever	Temple	—
	September	Malarial remittent fever.			"	—
	October					Dysentery.
	November					—
	December	Ischio-rectal abscess			Boat	—
1898	January	Fever and ague. diarrhoea.			" pontoon	—
	February	Neuralgia			Pontoon	Typhoid fever.
	March	Fever and ague			Boat	Mucous tumour.
	April		Jaundice		"	—
	May				"	—
	June	Diarrhoea			Pontoon	—
	July					Hæmoptysis, asthma.
	August					—
	September	Inflammatory diarrhoea.			Native house	—
		External hæmorrhoids and fissure of anus.			" "	—
		Tonsillitis			Pontoon.	—

YEAR.	MONTH.	FOREIGN RESIDENTS AND VISITORS.						
		MERCHANTS, ETC.			MISSIONARIES.			
		Adults.		Residence.	Adults.		Children.	Residence.
		Male.			Male.	Female.		
1897	August	—		—		—	—	
	September	Chancroid ulcer	Shipboard	Malarial remittent.		—	Boat.	
	October	—				—	—	
	November	Sprained ankle	Shipboard.			—	—	
	December	—				—	—	
1898	January	—				—	—	
	February	Ague	Shop. S.W. suburbs.	Confluent small-pox (death).		—	Gospel hall in the city.	
	March				Neuralgia	—	Suburbs.	
	April				Malarial fever	—	"	
	May	—				—	—	
	June	Acute pleurisy	Shipboard			Ascarides	Wooden hut.	
	July	Bullet wound	S.W. suburbs.			—	—	
	August	—				—	—	
	September	Tertian ague	Shipboard.			—	—	

TABULAR MONTHLY VIEW OF DISEASES AT WUCHOW—Continued.

YEAR.	MONTH.	CHINESE PATIENTS.		
		MALE.	FEMALE.	CHILDREN.
1897	August	Rheumatic arthritis, tonsillitis, spermatorrhœa, otorrhœa, gonorrhœal rheumatism and malignant pustule.	Malarial fever, ulcers.
	September.....	Locomotor, ataxia cataract, phthisis, tinea circinata, tonsillitis, perforating ulcer of foot, tetanus, urethral calculus, hemiplegia, whitlow, asthma, cicatricial contraction of finger.	—	—
	October.....	Phthisis pulmonalis, syphilis, tinea, anæmia, ascites, Bell's paralysis, chronic rheumatism, Bright's disease, calculus, poliomyelitis anterior.	—	—
	November.....	Lipoma, herpes, caries of ankle-joint, carbuncle, scrofula, cardiac dropsy.	—	—
	December.....	Phthisis pulmonalis, bruise inflicted by a buffalo.	—	—
	1898	January.....	Small-pox, malarial fever, scabies, hæmoptysis, furunculus, strumous cervical glands.	—
February.....		Small-pox, bubo, syphilitic onychia, wen, gunshot wound right hypochondrium, opium habit.	Sword cuts (on temple, hand, and shoulder).	—
March.....		Ulcerative stomatitis, hypochondriasis, ulcers, bronchitis, internal hemorrhoids, dislocation of lumbar vertebrae.	Abscess of hand, epithiora.	Congenital syphilis.
April.....		Bubonic plague, phthisis pulmonalis, gunpowder explosion burns.	—	—
May.....		Bubonic plague, eczema capitis, Eustachian catarrh...	Abscess of foot; tinea.	—
June.....		Bubonic plague, ascaris lumbricoides, dental caries, sarcoma of knee, conjunctival ecchymosis.	Glaucoma.....	Granular lids.
July.....		Axe wound of knee, abscess of antrum, fever and ague, postmortem on case of death by bullet wound, chaneroid and buboes, phthisis, typhoid, internal hemorrhoids, ulcer of heel, pterygium.	Rheumatic arthritis.	—
August.....		Measles, anæsthetic leprosy, tertian ague, eczema, tinea, asthma, epilepsy, trachoma, palpitation, ulcers, rheumatic arthritis, chaneroid ulcers, ascites, scabies, gutta rosea, abscess of arm, gleet, gonorrhœal rheumatism, sprain, psoriasis, cataract.	Confinement (primipara, 1st position, funis circ. coll.), abscess axilla, whitlow.	Boils, dorsal spinal curvature, pig-bite on cheek, Bright's, ascariæ.
September.....		Right inguinal hernia, phimosis, nervous indigestion, scald, ulcer of heel.	Dysentery.....	Strumous glands, double opacities of cornea.

METEOROLOGICAL TABLE, 1st February to 30th September 1898.

MONTH.	THERMOMETER.						BAROMETER.		RAINFALL.	
	Maximum.	Minimum.	Maximum Mean.	Minimum Mean.	Maximum Dry.	Minimum Wet.	Maximum.	Minimum.	No. of Hours.	Quantity.
	° F.	° F.	° F.	° F.			Inches.	Inches.		Inches.
February	89.0	42.0	74.0	55.6	85.0	43.0	30.540	30.406	4.50	0.11
March.....	83.5	43.0	69.5	56.2	80.5	41.5	30.540	30.338	9.00	0.20
April.....	92.0	54.0	77.3	64.2	90.0	53.5	30.540	30.310	88.50	10.55
May.....	95.0	61.5	89.6	79.2	93.0	61.0	30.450	30.200	28.00	4.38
June.....	96.5	70.0	90.6	77.3	94.0	73.0	30.350	29.500	44.50	6.18
July.....	96.0	76.0	91.5	79.0	94.5	75.0	30.090	29.530	44.66	5.81
August.....	100.0	73.0	92.3	78.7	96.5	74.0	29.920	29.420	33.50	4.29
September.....	96.0	73.0	91.2	75.3	93.0	72.0	30.120	29.760	46.50	12.23

II.—SPECIAL SERIES.

No. 1.—NATIVE OPIUM	Published 1864.
„ 2.—MEDICAL REPORTS: 56th Issue (First Issue, 1871)	„ 1899.
„ 3.—SILK	„ 1881.
„ 4.—OPIUM	„ 1881.
„ 5.—NOTICES TO MARINERS: Seventeenth Issue (First Issue, 1883)	„ 1899.
„ 6.—CHINESE MUSIC	„ 1884.
„ 7.—INSTRUCTIONS FOR MAKING METEOROLOGICAL OBSERVA- TIONS, AND THE LAW OF STORMS IN THE EASTERN SEAS	„ 1887.
„ 8.—MEDICINES, ETC., EXPORTED FROM HANKOW AND THE OTHER YANGTZE PORTS, WITH TARIFF OF APPROXIMATE VALUES	„ 1888.
„ 9.—NATIVE OPIUM, 1887	„ 1888.
„ 10.—OPIUM: CRUDE AND PREPARED	„ 1888.
„ 11.—TEA, 1888	„ 1889.
„ 12.—SILK: STATISTICS, 1879-88	„ 1889.
„ 13.—OPIUM: HISTORICAL NOTE; OR THE POPPY IN CHINA ...	„ 1889.
„ 14.—OPIUM TRADE: MARCH QUARTER, 1889	„ 1889.
„ 15.—WOOSUNG BAR: DREDGING OPERATIONS	„ 1890.
„ 16.—CHINESE JUTE	„ 1891.
„ 17.—ICHANG TO CHUNGKING, 1890	„ 1892.
„ 18.—CHINESE LIFE-BOATS, ETC.	„ 1893.
„ 19.—REPORT ON SOUND TRIALS OF SIRENS	„ 1895.
„ 20.—CHUNGKING: BUSINESS QUARTER AND MOORING GROUNDS, 1896	„ 1896.
„ 21.—CHINA'S DEFECTIVE CURRENCY: MR. WOODRUFF'S REME- DIAL SUGGESTIONS	„ 1897.
„ 22.—RAILWAYS AND INLAND TAXATION: MR. BREDON'S MEMORANDA CONCERNING	„ 1897.
„ 23.—OUTWARD TRANSIT PASS PROCEDURE AT CANTON: PROVISIONAL RULES	„ 1897.
„ 24.—INTERNATIONAL MARINE CONFERENCE, WASHINGTON, 1889	„ 1898.
