

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

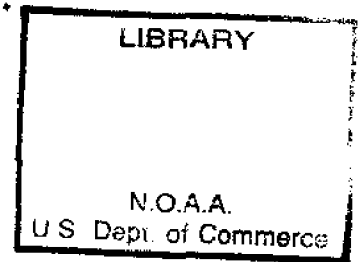
MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 31ST MARCH 1885.

29th Issue.

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no. 29
(1885)

PUBLISHED BY ORDER OF
The Inspector General of Customs.



SHANGHAI:

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

AND SOLD BY

KELLY & WALSH, LIMITED: SHANGHAI, YOKOHAMA, AND HONGKONG.

LONDON: P. S. KING & SON, CANADA BUILDING, KING STREET, WESTMINSTER, S.W.

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National Oceanic and Atmospheric Administration

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December 20, 2000

INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31st December 1870.

SIR,

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

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

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

b.—Diseases prevalent at.....

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

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

(Signed)

ROBERT HART,

I. G.

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

SHANGHAI, 2nd November 1885.

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:—

Report on the Health of Ichang, p. 1;

Report on the Health of Pakhoi, pp. 12, 13;

Report on the Health of Shanghai, pp. 14-30;

Report on the Health of Amoy, pp. 31, 32; each of these referring to the half-year ended 31st March 1885.

Report on the Health of Kiukiang, pp. 2-5;

Report on the Health of Canton, pp. 9-11;

Report on the Health of Hankow, pp. 33-39; each of these referring to the year ended 31st March 1885.

Report on the Health of Ningpo for ten months ended 31st March 1885, pp. 6-8.

Special articles on—

The so-called "Black Lime" of China, pp. 40, 41.

The Movement Cure in China, pp. 42-52.

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 :—

A. HENRY, M.A., L.R.C.P.Ed	Ichang.
G. R. UNDERWOOD, M.B., CH.M.	Kiukiang.
Dr. S. P. BARCHET	Ningpo.
J. F. WALES, B.A., M.D., CH.M.	Canton.
J. H. LOWRY, L.R.C.P.Ed., L.R.C.S.Ed.	Pakhoi.
R. A. JAMIESON, M.A., M.D., M.B.C.S.	Shanghai.
B. S. RINGER, M.B.C.S., L.S.A.	Amoy.
C. BEGG, M.B., CH.M.	Hankow.
A. P. PEER, M.D.	Tientsin.
D. J. MACGOWAN, M.D.	Wanchow.

For everything enclosed within square brackets [], the compiler is responsible.

DR. A. HENRY'S REPORT ON THE HEALTH OF ICHANG

For the Half-year ended 31st March 1885.

DURING the winter months that have just passed the health of the community could scarcely have been better. No cases of serious illness occurred among the foreign or native members of the Customs staff; and the other few foreigners here enjoyed excellent health. There was no epidemic among the native population until March, when measles broke out and attacked a great number of children. The mortality was reported to be very heavy. The disease was known by the term *ma-tzū* (痲子). Small-pox is not called this, but always *tou* (痘) or *hua* (花), though, curiously enough, the name for a person pitted with small-pox is *ma-tzū* (痲子). The term *chén* (疹) is colloquially used of any *uniform* eruption, and might be said of scarlatina; but I have never seen a case of this disease here. Diphtheria is also fortunately absent, so far as I can judge. In the epidemic of measles the cases which proved fatal were generally characterised by a failure of the eruption to come out, or by only a few spots appearing. In such cases native physicians said that the disease struck inwards (痲子入內).

The weather was fine and dry, but a somewhat lower temperature than usual prevailed, and the winds were sharper. Stiff necks and various rheumatic pains were often caused by walks taken in the evenings when the sun was low and the wind keen. There was little, if any, ague.

As a remedy of service in cases of constipation, I can recommend for trial the *dried persimmons*, which are sold by the Chinese here on the streets.

Annexed is a meteorological table.

METEOROLOGICAL TABLE.

MONTH.	THERMOMETER (FAHR.).				BAROMETER.		RAIN.	
	Highest.	Lowest.	Average Highest.	Average Lowest.	Highest.	Lowest.	Rainfall	Number of Days.
1884.	°	°	°	°	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>	
October	74	49	66	58	30.38	29.88	4.83	16
November	67	38	55	45	30.52	29.92	3.55	10
December	60	32	51	36	30.58	29.99	0.10	1
1885.								
January	52	31	45	36	30.52	30.08	0.56	4
February	55	33	47	38	30.52	30.05	0.30	5
March	73	38	58	47	30.52	29.80	1.05	9

DR. G. R. UNDERWOOD'S REPORT ON THE HEALTH OF KIUKIANG

For the Year ended 31st March 1885.

THE health of the foreign residents at this port during the year just ended has been fairly good, there not having been more than the usual amount of sickness. There has been no epidemic of any kind, nor have malarial fevers prevailed to such a degree as in former years. *Typhoid fever has not presented itself during the period under review. One foreigner—about 25—had variola in July, the poison having been received from contact with the Chinese. The disease is nearly always present among the native population, and the wonder is that more foreign residents do not get it, considering the constant intercourse with Chinese directly, and also through the servants in the Concession, who expose themselves to all contagia, without any thought of infection.*

The case was discrete, and ran the usual course, without any untoward symptom. The patient had been vaccinated unsuccessfully, or insufficiently, the year before.

Very different in its course and termination was a second case, which occurred in November. The patient, 26, delicate in constitution, and unvaccinated since childhood (small-pox was epidemic in her home in Nebraska two years previously, but on account of pregnancy she was not vaccinated), was exposed to the contagion in Chinkiang or on board one of the river steamers on the way to this place. Immediately after her arrival one of her children suffered from cerebral symptoms, and she was much fatigued with nursing before symptoms of small-pox appeared. The eruption was confluent, and the pyrexia did not go down at all on the appearance of the rash. On the face and neck the eruption ran the usual course, except that it was somewhat prolonged, and on the trunk and limbs it was much retarded and never fully matured. There were several pustules on the conjunctivæ, close to the corneal margins, and in spite of frequent careful washing with astrigents, sloughing and perforation of one cornea took place, and ulceration at one point on the other. Had she lived there would have been complete opacity on one side, and a large leucoma on the other. Death took place on the 17th day of the disease, from pyæmia apparently, well-marked rigors, not otherwise to be accounted for, having preceded the issue by three days.

In this case many of the conditions favourable to a spread of the mischief among the attendants, such as the concentrated form of the contagion, fatigue, want of rest, mental worry, etc., were present. The precaution of vaccinating all who came into contact with the patient was adopted as soon as the diagnosis was made, and no second case followed. The necessity for keeping all Europeans up to the mark as regards vaccination was well exemplified in both instances.

A case of tubercular pulmonary disease, in which there were certain points of interest, came under observation towards the end of January:—

The patient, aged 46, was then considerably emaciated, with an evening temperature of from 101°.5 to 102°.5; pulse, 90; respirations, 24; and nightly colliquative sweating. Over the right apex there was marked flattening, with increase of vocal fremitus, dulness on percussion, and on auscultation fine crepitus all over the consolidated part. The stomach was irritable, and digestion feeble. The lower border of the liver ended one inch above the lower margin of the ribs, in the mamillary line. No treatment seems to

do any good, and the lung condition gets worse all the time. Each time that quinine has been given for a few days to reduce temperature, dysuria has invariably come on, lasting while the drug is being taken, and ceasing on its being left off.

The following were the chief symptoms of a case of sprue, in the earlier stage, which was under my care some months ago:—

The patient, a male, aged 34, who had lived in China over 10 years, had become thinner, fortunately without corresponding diminution of strength. The colour of the tongue was slightly redder than natural, and the surface bare and smooth, as if planed, from deficient growth of the epithelial covering, and the papillae were on that account unduly prominent. There were none of the characteristic red spots of the second stage present. At times, along the edges and underneath, there was a bluish tinge, as if a weak solution of nitrate of silver had been brushed over the mucous membrane. The same appearance occasionally presented itself on the buccal mucous membrane, and small shallow, round ulcers, not to be distinguished from those seen in chronic dyspepsia, were found now and then, especially in the sulcus where the mucous membrane is reflected from the gums over the inner surface of the cheeks and lips. Anything hot or pungent, and spirits even well diluted, caused a most unpleasant soreness in the mouth and throat. Soon after eating there would arise a feeling of uneasiness in the abdomen, with distension of the stomach, and epigastric tenderness, and acidity was not an infrequent accompaniment. The distension, with its consequent borborygmi, was the most troublesome symptom. There were usually one or two movements, of a light colour, watery and with flatus, in the morning; and one or more during the day. All the symptoms would disappear for weeks, the tongue recover to a considerable extent, and the bowels become regular and almost natural. Exposure to cold and damp almost invariably brought on a return of the diarrhoea and soreness of the mouth. A feeling of feverishness, with burning of the palms—the temperature rising not more than one degree—occasionally preceded the return of the symptoms. The size of the liver was not appreciably altered. Milk and bland food were always beneficial, and much out-of-door exercise a necessity.

There have been four births during the year, and of these one was still-born, and a second premature.

6,200 Chinese, being 1,000 over the attendance of last year, have come to the hospital for treatment. Owing to the war with France the garrison of this place has been increased to 3,000 men, and as there is no provision made for the soldiers when sick, many of them have come for assistance. There have been in-door patients from the camps around during the whole year. Contrary to their reputation elsewhere, these soldiers have been easily managed, and well behaved; the sisters have not had the least difficulty with them, and occasionally after leaving they have shown their gratitude by bringing presents for the use of other patients. Many of them are from Honan, and having taken to soldiering as the business of life, are much more respectable than the ordinary rowdy of a Chinese city. There has been a considerable increase in the number of eye cases treated. One or two patients from a district have perhaps been treated successfully for cataract or other affection, and soon afterwards there is a stream of all those who in the neighbourhood have any eye affection, from slight trichiasis to absolute opacity. The most common troubles are corneal inflammations and ulcerations, granular lids and trichiasis. A very common result of corneal ulcer after malarial fever is perforation, with consequent anterior staphyloma, or complete evacuation of the contents of the globe. Many of these cases, though difficult to manage, would be benefited were they seen in time. It is astonishing how the eyelashes are allowed to continue rubbing on the corneal surface till it is like ground glass, and equally opaque, without the least effort to

prevent it by removing the lashes or otherwise. The usual reply to remonstrance as to why they did not come earlier is "they hadn't time." Many tumours are seen at the hospital, and operations for their removal are among the most important of those performed. Malignant growths are generally too advanced to be dealt with successfully. Every Chinaman, and woman too, of the lower classes smokes tobacco, and yet in four years, with a total of 19,000 patients, I can remember only one case of epithelioma of the lip. The mouthpiece of the pipe used is usually brass, bamboo or jade. Cancer affecting the jaws is by no means rare.

It is my experience that within the last two years the Chinese have been much more ready to ask help in difficult obstetric cases. When operative interference has been deemed necessary, there has not been the slightest objection or hindrance. The following short notes of the last nine cases seen this year are of interest, as showing the usual causes of dystocia met with here:—

PAO TA-CHIEN, 28, unmarried; primipara; was seen at the end of the 4th day of labour. The labia were much swollen, and the lower limbs brawny and œdematous. The presentation was left occipito-anterior, and the head well into the pelvis. Evacuation of the bladder did not strengthen the pains, which, though feeble, had not ceased. Chloroform having been given, forceps were applied with some difficulty on account of the swelling, and the labour terminated—the child being still-born. The mother made a good recovery. Uterine inertia.

CHANG TIAO-FEH, 24, married; secundipara; 4½ days in labour. The pains were very feeble, with some abdominal tenderness, and there was swelling of the external parts. The presentation was left occipito-anterior, and the head low down in the pelvis. Forceps were used, and the labour terminated with ease. The child had been dead for some days. The mother did well.

CHI TA-CHIOH, 38, married; primipara; said to have been in labour 5 days before being seen. The presentation was left occipito-anterior, and the head fairly within the brim. The pains were weak, and the bladder much distended. The use of the catheter brought on strong pains, and the labour quickly terminated. Mother and child did well.

MAO YUNG-MEI, 23, married; secundipara; had been in labour 4 days before assistance was sought. The right hand was lying in the vagina, and the face looked backwards towards the mother's left sacro-iliac synchondrosia. With chloroform the arm was replaced, the left leg brought down, and the labour finished. The child was still-born. The mother made a good recovery.

HANG YU, 35, married; third child; had been in labour 5 days, and was much worn out. The left hand was protruding from the vagina, swollen and cold, the face looking forwards. Chloroform was given, and long-continued attempts were made to replace the arm and turn. These, however, failed, so tightly were the shoulder and body jammed down into the pelvis. The thorax was then perforated through the left axilla, the viscera removed, and the labour terminated with considerable difficulty. The mother recovered well.

LÜ SHIH, 33, married; fourth child; had been 12 hours in labour. The right hand presented externally, the face looking forward. Under chloroform version was easily performed, and the child quickly born. Both did well.

CHAO MEI, 19, married; primipara; had borne a child in the morning, but 15 hours after, the placenta had not been expelled. Hour-glass contraction of the uterus was found. With difficulty the hand dilated the contraction and extracted the placenta, which was not adherent. The patient did well.

CHIH SEIH, 28, married; secundipara; had had one child in the early morning, a second remaining in the uterus till evening, when help was called. The head had entered the pelvis, right occipito-posterior; but the pains were feeble, and no progress was being made. The membranes, which were very tough, were then ruptured, forceps applied, and the labour brought to an end. Child and mother did well.

LI SHIH, 28, married; primipara; had been in labour 3 days. The presentation was left occipito-anterior, and the head low down in the pelvis. The use of the catheter stimulated the uterus, and labour quickly ended. Mother and child did well.

In the more severe of these cases a lotion of permanganate of potash, or carbolic acid 1-150, was thrown into the vagina twice a day for the first week—the duty being undertaken by my hospital assistant,—and cleanliness of the bedding insisted on.

A weak solution of carbolic acid, 1-180, was being used to wash out the passages, in the case of a foreign patient, four days after delivery. The backward flow, from some cause or other, was impeded, and the patient called out "Stop! I taste carbolic acid in my mouth." The syringe was withdrawn, and the sensation passed off, leaving the patient somewhat nervous. Nothing untoward followed, and all was right when I came a few minutes afterwards. The taste of beef tea is occasionally perceived in the mouth when administered per rectum. The experience with carbolic acid has not happened to me before.

Eight cases of attempted suicide by swallowing opium have been treated, and as they were seen soon after the drug had been taken, the result in all was satisfactory. Emetics, washing out the stomach with warm water, strong coffee, and a small GAIFFE'S battery to prevent sleep were the means used. The practice of keeping the patient in movement, in order to keep awake, does not seem a good one, especially in the case of small-footed women, who constitute a large per-centage of would-be suicides in this place. The battery answers the purpose quite as effectively, and without the same degree of fatigue. Last year many of the opium-poisoning cases died, proper measures not having been taken till too late. Many cases are treated by the Chinese themselves with sulphate of copper and sulphate of zinc emetics, purchased at the Canton stores. While opium is the favourite method of self-destruction, other ways are also tried, and I have known of one case of cut throat, two of strangulation by hanging, one of poisoning with arsenic, and one of drowning, within the year.

I am indebted to Mr. Harbour Master GÜNTHER for the following

ABSTRACT OF METEOROLOGICAL OBSERVATIONS.

MONTH.	TEMPERATURE			RAINFALL	
	Maximum.	Minimum.	Mean.	Days.	Inches.
1884.					
April.....	86	41	65	8	4 $\frac{1}{2}$
May.....	89	54	72	11	5 $\frac{1}{2}$
June.....	93	65	79.5	11	3 $\frac{1}{2}$
July.....	93	71	86	11	14 $\frac{1}{2}$
August.....	94	70	84	7	6 $\frac{1}{2}$
September.....	91	63	78.5	5	5 $\frac{1}{2}$
October.....	86	49	67	7	3 $\frac{1}{2}$
November.....	67	34	50.5	13	6 $\frac{1}{2}$
December.....	66	26	43	1	2 $\frac{1}{2}$
1885.					
January.....	61	29	40	7	2 $\frac{1}{2}$
February.....	58	31	40	8	1 $\frac{1}{2}$
March.....	85	31	51.5	11	3 $\frac{1}{2}$

Number of days on which rain fell during the year, 100; inches, 57 $\frac{2}{5}$.

DR. S. P. BARCHET'S REPORT ON THE HEALTH
OF NINGPO

For Ten Months ended 31st March 1885.

THE general health of the foreign community at this port during the above period has been good. There have been five births and one death; the latter was caused by aneurism, and valvular disease of some years standing.

The summer months were exceptionally cool, and there was not much sickness. The usual complaints, fever and diarrhoea, yielded readily to treatment. No cases of cholera occurred among foreigners, and only a few sporadic cases among natives.

The autumn months were dry and pleasant; this may account for the usual intermittents being late in making their appearance. We had instead a large crop of boils and carbuncles.

The winter months were cold for Ningpo. Foreigners suffered from colds and bronchitis, and the natives were attacked with ague of the tertian and quartan types.

February was marked by liver complaints, and March by catarrhal fevers.

Tu-fung-hwa, a pernicious, contagious fever, has become epidemic. Some die in a few hours, others last as long as 10 days; but of those attacked few recover. Many families have been entirely swept away.

Two Chinese lepers presented themselves for treatment. They are both young men, natives of Ningpo. One of them, however, had lived several years in Hangchow. They came from different parts of the city; they belong to different clans, and are the only members of their respective families afflicted with this disease. The leonine face was prominent in each case; they have not been long enough under treatment to speak of results. I may, however, mention an interesting case that presented itself eight years ago:—

A leprous youth, 17 years of age, in whom the tubercular form had already far advanced, having within three years spread over the surface of the body, came to seek relief from the discomfort caused by the ulcerating leprous patches that had attacked the extremities, on account of which he was practically helpless. The disfigured face gave him more the appearance of an old man than of one who was only beginning life. A cure was hardly looked for, for it was difficult to make any impression on the ulcerated hands and feet. It was noticeable, however, that the disease made no further progress; this encouraged the patient, and helped him to persevere with the treatment for three years, and he was cured. The treatment consisted of small doses of arsenic and mercury internally, keeping him in the open air as much as possible; and besides his ordinary food he was allowed as much of the fat of the edible snail as he could readily digest.

Last autumn, when the canals were nearly dry, six cases of carbuncle came under my care.

One of these was facial, four were on the back of the neck, and one was seated over the sacrum. The last proved fatal; but the patient had been previously weakened by a miscarriage. One of those on the back of the neck had been cut by a native doctor, after which the face was attacked by erysipelas, and the man had a narrow escape.

I have given up the use of the knife in carbuncles, and prefer strapping. But better than strapping I find the application of an elastic band, especially for facial carbuncle. The common elastic bands at the stationers answer the purpose very well. Stretching the band so as to embrace the entire base, it is easily kept in position by a piece of flat elastic or tape passed round the head or neck. This plan lessens rather than increases the burning pain; it limits extension at the base, and by its gentle persistency forces the carbuncle to come to a head.

Eye diseases are common all the year round. Amongst 25,000 cases treated during the past eight years, about 40 per cent. were affections of the eye. So high a per-centage demands some explanation. The roads being few and the canals many, there is not much sand or dust in the air; we must look elsewhere for the irritating causes. Bright sunlight, smoky dwellings, and filthy habits, as well as a peculiar diet, are no doubt factors in affecting this sensitive organ. *Lao-tsiu* (wine distilled from rice) will, even in small quantity, cause congestion of the conjunctiva.

Affections of the conjunctiva and eyelids are the most frequent, and trachoma with pannus are often hard to relieve. Want of cleanliness helps to keep up a chronic inflammation, which tends to invert the eyelids; and the eyelashes, in many cases, grow in every direction. The lachrymal apparatus is also disturbed in proportion.

Affections of the cornea come next in frequency. Ulceration is very common, and probably more eyes are lost from this cause than from any other. The frequent conjunctival inflammations tend to impair the nutrition of the corneal tissue; and it would appear that this weakness is inherited, as we notice a tendency to corneal ulcerations in members of the same family.

Affections of the iris and uveal tract are not often met with, apart from adhesions through corneal ulceration. Cases of iritis are mostly rheumatic, rarely syphilitic.

Choroiditis and irido-choroiditis are occasionally met with in consequence of injury; sometimes after measles. A few are idiopathic.

Cataract is not uncommon in this province. In its incipient stage the native oculists do not recognise the trouble, but when fully formed they call it "internal opacity." They do not know how to operate for cataract, but I have met one native doctor in Chékiang who understands the method of couching. He was taught by his preceptor that cataract was caused by catarrh of the brain, exudation from the brain dropping into the eye, rendering the lens opaque. He couches by introducing a needle into the sclerotic, a little behind the equator of the eye; carries the needle forward till the point of it reaches the upper portion of the lens, when he depresses the needle till the lens falls out of view. The patient is kept in a dark room for a few days, and if the lens floats too high and obscures vision he couches again.

Affections of the optic nerve and retina are but rarely met with.

I am indebted to Mr. Harbour Master KLIENE for the following table:—

METEOROLOGICAL TABLE for the Year 1884.

MONTH.	ANEROID BAROMETER.				THERMOMETER.				WINDS.					WEATHER.			
	Highest by Day.	Lowest by Day.	Highest by Night.	Lowest by Night.	Highest by Day.	Lowest by Day.	Highest by Night.	Lowest by Night.	Number of Days N. to E.	Number of Days E. to S.	Number of Days S. to W.	Number of Days W. to N.	Number of Days Calm.	Number of Days Fog.	Number of Days Rain.	Number of Days Snow.	Rainfall.
January.....	<i>Inch.</i> 30.44	<i>Inch.</i> 29.98	<i>Inch.</i> 30.42	<i>Inch.</i> 30.02	° 56	° 32	° 60	° 30	<i>D. h.</i> 4 20	<i>D. h.</i> 5 0	<i>D. h.</i> 7 16	<i>D. h.</i> 12 8	<i>D. h.</i> 1 4	<i>D. h.</i> 1 0	<i>D. h.</i> 5 8	<i>D. h.</i> 0 8	<i>In.</i> 18
February.....	30.46	30.02	30.44	30.04	54	28	57	31	5 12	5 16	3 8	12 0	2 12	0 20	5 4	0 8	34
March.....	30.36	29.78	30.30	29.80	65	38	67	41	7 0	4 8	9 20	7 20	2 0	...	5 20	...	48
April.....	30.22	29.74	30.22	29.78	77	41	75	43	6 20	9 0	7 16	5 8	1 8	0 20	2 20	...	34
May.....	30.06	29.70	30.04	29.68	81	56	83	57	6 8	7 8	10 20	5 4	1 8	0 16	3 16	...	54
June.....	29.98	29.58	29.96	29.62	87	64	86	69	3 4	11 20	10 12	3 4	1 8	...	3 20	...	98
July.....	29.96	29.56	29.96	29.56	88	72	88	74	2 12	10 0	16 4	1 4	1 4	...	2 16	...	54
August.....	29.96	29.66	29.94	29.60	87	74	88	75	9 16	7 8	7 16	4 8	2 0	...	3 4	...	88
September...	30.12	29.68	30.10	29.72	85	79	86	69	4 8	7 4	5 16	9 16	3 4	...	6 8	...	158
October.....	30.32	29.92	30.30	29.90	84	51	80	52	7 8	5 8	4 20	10 16	2 20	0 4	4 12	...	98
November...	30.44	29.92	30.38	29.90	66	39	65	41	4 4	1 4	3 8	18 20	2 12	0 4	6 4	...	4
December ...	30.48	30.06	30.48	30.10	55	32	58	33	5 16	2 12	5 20	16 8	0 16	...	0 8	...	8

DR. J. F. WALES'S REPORT ON THE HEALTH OF CANTON

For the Year ended 31st March 1885.

I HAVE to record three births and four deaths in connexion with the foreign community residing here during the above period. The labours were all natural, their average duration being not longer than at home, viz., about 10 hours.

In the case of a multipara I observed the curious phenomenon known as hydrorrhœa gravidarum. There were frequent and copious gushes from the uterus of a watery fluid resembling liquor amnii. This continued throughout pregnancy, which terminated naturally at the full period.

The diseases terminating fatally were diarrhœa and convulsions, aortic aneurism, typhoid fever and cirrhotic Bright's disease. Three deaths were in May and one in December.

The case of aneurism is interesting from the fact that the suffering it caused was so slight that the patient never sought medical aid. He was a middle-aged man. Having risen and dressed, he was proceeding downstairs on his daily routine of duty, when he suddenly fell and expired. During the day I made an examination of the body. The left pleural cavity was filled with blood, which was found to proceed from the rupture of a large aneurism situated at the lower part of the descending aorta, and extending into the abdomen. The bodies of the adjacent vertebræ were much eroded, the left ventricle was hypertrophied, and the liver was somewhat fatty and enlarged. All the other viscera were healthy. I have learnt from one of his friends that latterly he had frequently complained of "rheumatic pains" in his back.

In the fatal case of typhoid the patient was a girl aged 4 years :—

She died from hæmorrhage on the 38th day of her illness, during a relapse. The bowels were costive throughout the entire course of the disease, and there was no trace of any eruption. My diagnosis was based on the meteorism, gurgling, marked iliac tenderness, and the characteristic rise of temperature during the first eight days, and the morning remissions. On the day preceding the fatal termination of the case there was a copious discharge of bright clotted blood from the bowels, and this continued in more or less abundance to the end. I may here remark that the characteristic eruption has been absent in the few cases of this disease that I have attended in Canton.

The following diseases are enumerated in the order of their frequency here during the past year :—fevers, generally of slight intensity and brief duration, and traceable usually to malarial influence; diarrhœa; syphilis; gonorrhœa; dysentery; hepatic congestion; numerous disorders caused by the presence of worms, and chiefly affecting women and children; skin affections—lichen tropicus, eczema, boils, ulcers, the various forms of tinea, scabies, herpes, and urticaria; also gout, orchitis, cystitis, two cases of typhoid fever and two of incipient sprue. Of the following list there were single examples only :—gonorrhœal rheumatism, urethral stricture, acute ovaritis, anal abscess, floating cartilage in knee-joint, hepatic colic, acute rheumatism, jaundice, pneumonia, phthisis, thoracic aneurism, carbuncle, spermatorrhœa, delirium tremens, general spinal paralysis and cirrhotic Bright's disease.

The appended abstract from the meteorological tables for the past year has been prepared by Captain PALMER.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS taken at CANTON during the Year ended 31st March 1885.

MONTH.	WINDS.							WEATHER.			BAROMETER.				THERMOMETER.			
	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 Hourly Force.	No. of Days Fog.	No. of Days Rain.	Rainfall in Inches.	DAY.		NIGHT.		DAY.		NIGHT.	
											Highest Reading and Average Highest.	Lowest Reading and Average Lowest.	Highest Reading and Average Highest.	Lowest Reading and Average Lowest.	Highest Reading and Average Highest.	Lowest Reading and Average Lowest.	Highest Reading and Average Highest.	Lowest Reading and Average Lowest.
1884.							miles				Inches.	Inches.	Inches.	Inches.	°	°	°	°
April.....	9	5	...	1	5	...	4.99	3	21	8.65	{ 30.18 30.01	29.76 29.85	30.13 29.99	29.80 29.95	85 70.3	56 69.9	78 69.99	54 62.9
May.....	2	10	2	...	17	...	5.29	...	22	1.6	{ 30.00 29.89	29.70 29.86	30.00 29.91	29.71 29.86	90 80.6	68 76.1	82 79.3	64 70
June.....	...	8	3	...	6	...	5.68	...	17	15.35	{ 29.93 29.83	29.62 29.75	29.91 29.83	29.62 29.78	90 84.27	73 78.71	88 82.3	74 78.9
July.....	...	19	2	...	10	...	5.59	...	18	16.45	{ 29.94 29.77	29.51 29.71	29.93 29.79	29.58 29.72	94 87.6	78 82.6	90 86	78 81.1
August.....	2	19	3	1	6	...	5.08	...	12	7.30	{ 29.95 29.81	29.63 29.75	29.93 29.81	29.65 29.74	94 87.6	78 81.8	92 84.8	79 81.6
September...	13	7	3	1	6	...	4.37	...	3	0.92	{ 30.10 29.91	29.39 29.82	30.02 29.86	29.40 29.83	93 87	75 79.5	90 84.3	76 80
October.....	11	11	3	...	6	...	3.19	...	5	5	{ 30.23 30.10	29.90 30.02	30.20 30.08	29.90 30.04	88 81.9	66 76.8	83 77.5	67 73.8
November...	23	3	...	...	4	...	4.37	...	6	1.06	{ 30.32 30.16	29.90 30.06	30.27 30.14	29.88 30.09	85 72.2	53 65.1	79 67.4	48 61.5
December....	14	5	...	...	12	...	2.77	3	...	...	{ 30.38 30.25	30.06 30.17	30.34 30.23	30.08 30.18	74 66.9	51 57.4	67 60.2	46 54.9
1885.																		
January.....	14	5	...	1	11	...	3.72	...	3	1.75	{ 30.33 30.23	30.04 30.11	30.28 30.20	30.04 30.14	74 61.9	45 54.5	68 57.7	44 52.6
February....	25	...	1	...	2	...	5	...	18	8.06	{ 30.33 30.15	29.98 30.07	30.30 30.14	29.88 30.08	70 54	44 50	65 52	45 49
March.....	8	15	3	3	2	...	4.1	...	11	6.08	{ 30.30 30.10	30.01 30.28	30.30 30.10	30.04 30.28	78 66	58 76	74 64	59 70

REMARKS.—1884: During April the highest reading of the barometer was 30.18 inches, on the 2nd; and the lowest 29.76 inches, on the 21st. The highest temperature was 85°, on the 22nd; and the lowest 54°, on the 8th. Rain fell on 21 days, measuring 8.65 inches, against 13 days, measuring 7.31 inches, in the corresponding month of 1883. The prevailing winds were from S.E., and the strongest was recorded on the 7th, averaging 12.62 miles per hour during 24 hours.—In May the highest reading of the barometer was 30.00 inches, on the 5th, 6th, 13th, 14th and 15th; and the lowest 29.71 inches, on the 29th. The highest temperature was 90°, on the 23rd; and the lowest 64°, on the 14th. Rain fell on 22 days, measuring 15.36 inches, against 12 days, measuring 13.625 inches, in the corresponding month of the previous year. Variable winds prevailed, and the strongest was recorded on the 8th, averaging 10.50 miles per hour during 24 hours.—During June the highest reading of the barometer was 29.93 inches, on the 4th; and the lowest 29.62 inches, on the 28th. The highest temperature was 90°, on the 28th; and the lowest 73°, on the 11th. Rain fell on 17 days, measuring 15.35 inches, against 9 days, measuring 8.125 inches, in the corresponding month of last year. Variable winds prevailed, and the strongest was recorded on the 21st, averaging 11 miles per hour during 24 hours.—In July the highest reading of the barometer was 29.94 inches, on the 9th; and the lowest 29.56 inches, on the 21st. The highest temperature was 94°, on the 11th; and the lowest 78°, on the 1st, 2nd, 3rd, 29th and 30th. Rain fell on 18 days, measuring 16.45 inches, against 16 days, measuring 10.45 inches, in the corresponding month of the preceding year. Variable winds prevailed, and the strongest was recorded on the 21st, averaging 11.79 miles per hour during 24 hours.—During August the highest reading of the barometer was

29.95 inches, on the 29th; and the lowest 29.63 inches, on the 22nd. The highest temperature was 94°, on the 6th; and the lowest 78°, on the 31st. Rain fell on 12 days, measuring 7.3 inches, against 12 days, measuring 5.9 inches, in the corresponding month of last year. The prevailing winds were from S.E., and the strongest was recorded on the 16th, averaging 12.45 miles per hour during 24 hours.—During September the highest reading of the barometer was 30.10 inches, on the 27th; and the lowest 29.39 inches, on the 11th. The highest temperature was 93°, on the 9th; and the lowest 75°, on the 22nd. Rain fell on 3 days, measuring 0.92 inches, against 10 days, measuring 3.375 inches, in the corresponding month of 1883. The prevailing winds were from N.E., and the strongest was recorded on the 11th, averaging 7.9 miles per hour during 24 hours.—In October the highest reading of the barometer was 30.25 inches, on the 22nd; and the lowest 29.90 inches, on the 1st and 2nd. The highest temperature was 88°, on the 9th; and the lowest 66°, on the 15th, 20th and 21st. Rain fell on 5 days, measuring 5 inches, against 3 days, measuring 3.72 inches, in the corresponding month of last year. The prevailing winds were from N.E. and S.E., and the strongest was recorded on the 1st, averaging 9.25 miles per hour during 24 hours.—During November the highest reading of the barometer was 30.32 inches, on the 22nd; and the lowest 29.88 inches, on the 1st. The highest temperature was 85°, on the 5th, 6th and 7th; and the lowest 48°, on the 23rd. Rain fell on 6 days, measuring 1.06 inch, against 5 days, measuring 4 inches, in the corresponding month of last year. The prevailing winds were from N.E., and the strongest was recorded on the 18th, averaging 9.45 miles per hour during 24 hours.—During December the highest reading of the barometer was 30.38 inches, on the 12th; and the lowest 30.06 inches, on the 1st. The highest temperature was 74°, on the 1st and 3rd; and the lowest 46°, on the 30th. No rain fell during the month, against 1 day, measuring 0.75 inch, in the corresponding month of last year. The prevailing winds were from N.E., and the strongest was recorded on the 6th, averaging 9.66 miles per hour during 24 hours.—1885: During January the highest reading of the barometer was 30.33 inches, on the 30th; and the lowest 30.04 inches, on the 12th. The highest temperature was 74°, on the 6th and 7th; and the lowest 44°, on the 15th and 16th. Rain fell on 3 days, measuring 1.75 inch, against 2 days, measuring 0.375 inch, in the corresponding month of 1884. The prevailing winds were from N.E., and the strongest was recorded on the 13th, averaging 7.8 miles per hour during 24 hours.—In February the highest reading of the barometer was 30.33 inches, on the 1st; and the lowest 29.88 inches, on the 6th. The highest temperature was 70°, on the 7th; and the lowest 44°, on the 25th. Rain fell on 18 days, measuring 8.06 inches, against 13 days, measuring 10.74 inches, in the corresponding month of last year. The prevailing winds were from N.E., and the strongest was recorded on the 20th, averaging 6.87 miles per hour during 24 hours.—During March the highest reading of the barometer was 30.30 inches, on the 11th and 12th; and the lowest 30.01 inches, on the 23rd. The highest temperature was 78°, on the 30th; and the lowest 58°, on the 12th. Rain fell on 11 days, measuring 6.125 inches, against 17 days, measuring 10 inches, in the corresponding month of last year. The prevailing winds were from S.E., and the strongest was recorded on the 9th, averaging 9.3 miles per hour during 24 hours.

DR. J. H. LOWRY'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 31st March 1885.

THE health of the foreign community, now increased by the addition of ladies and children, has been very satisfactory during the past half-year. Winter opened later than usual (middle of November), and from that date to Christmas the weather was very pleasant. Cold, bleak weather then set in, and continued till we were well into March. North-east gales were constant, and some rain fell; it was exceptionally cold, and new-comers were astonished to find it so raw in these latitudes.

A case of measles occurred in an adult, and ran an uncomplicated course; it was evidently contracted by the patient using native boats while on fishing and shooting excursions.

When it is known that many native families live entirely in their boats, we should be cautious about making use of them, for contagious diseases more serious than measles might readily be contracted.

A member of the staff suffering from *sprue* of long standing was under my care for a time:—

The patient had but recently returned from England, where he had made marked improvement; but once back into a warmer climate, the old complaint returned. The tongue did not become badly affected, but several times the purging left him very much shaken. Medicines, as others have found, were of little use, but 8-grain doses of subnitrate of bismuth, which I gave constantly, seemed to soothe. No improvement set in until we were able to obtain an almost entire milk diet. Milk seems to be the ultimate resource in *sprue*, as everyone suffering from it very soon knows. Oranges agreed well, and I think that, had I had the courage to put my patient entirely on it, "the fruit cure" described by Dr. VAN DER BURG* might have given satisfactory results. I gave permission to try tinned fruits, and I found a little Marsala a useful stimulant. It agreed well after the intense prostration of the purging, though previously all forms of alcohol disagreed. The patient continued to improve, and so long as the wind kept northerly he was singularly well. He has now passed from my charge, having been transferred to a northern port.

Early in February a gunshot accident occurred to a Chinaman:—

A native servant in foreign employ, while cleaning a gun in which a No. 8 loaded cartridge had carelessly been left, accidentally wounded a boy standing near. A piece of skin as large as the hand was blown away from the back of the leg, leaving a ragged, blackened wound, from which there was smart hæmorrhage, though none of the deep vessels were injured. There was considerable shock, and stimulants were necessary. This unpromising wound, after careful cleansing with carbolic solution, 1 in 40, was dressed with picked oakum, and remained perfectly aseptic as long as the man was under my charge. Soon after the accident, however, he left the port.

* *Customs Medical Reports*, xxvii, 81.

A simple oblique fracture of the lower end of the humerus in a Chinaman was recently seen:—

It was due to direct violence, the man having been struck by a heavy stick in a gambling row. The usual splints were applied, and the man has submitted patiently to treatment.

Luen-tzū (霧子) or *Bubo Plague*.—Up to the present date it is satisfactory to be able to report that no cases have occurred here. This may be due to the cold winter we have had, and the amount of rain that fell in both February and March. The enormous exodus of natives, due to the port being blockaded by the French, may also have done some good.

METEOROLOGICAL TABLE.

MONTH.	THERMOMETER.						RAIN.		REMARKS.
	Highest by Day.	Lowest by Day.	Highest by Night.	Lowest by Night.	Average Day.	Average Night.	No. of Days.	Rainfall.	
1884.	°	°	°	°	°	°		<i>Inches.</i>	
October.....	87	64	86	64	81	72	4	No register taken.	
November.....	85	53	85	50	72	63	2		
December.....	82	50	71	49	73	52	...		
1885.									
January.....	81	43	71	40	60	52	5	1.85	
February.....	66	44	63	38	54	47	8	5.90	33° F. was registered one night in February on a steamer lying in port.
March.....	82	46	78	45	66	59	9	3	

Pakhoi is situated in latitude, 21° 29' N.; longitude, 109° 6' E.

For the column in which the rainfall for the past three months is registered I am indebted to the Harbour Master.

DR. ALEXANDER JAMIESON'S REPORT ON THE HEALTH OF SHANGHAI

For the Half-year ended 31st March 1885.

ABSTRACT of METEOROLOGICAL OBSERVATIONS taken at the Observatory of the Jesuit Mission at Zikawei, for the Six Months ended 31st March 1885. Latitude, $31^{\circ} 12' 30''$ N.; Longitude E. of Greenwich, $8^{\text{h.}} 5^{\text{m.}} 45^{\text{s.}}$ *

DATE.	Barometer at 32° F.	THERMOMETER.		Amount of Vapour in the Air per Cubic Foot.	Hu- midity, 0-100.	Ozone, 0-21.	Velocity of Wind per Hour.	Mean Direction of Wind.	Total Evaporation during Month.	Total Rainfall during Month.	REMARKS.
		Diurnal Mean Tempera- ture in Shade.	Extreme Tempera- ture in Shade.								
	Inch.	° F.	° F.				Miles.		Inch.	Inch.	
1884.											
Oct.	Max... 30.428 (15) Mean 30.134 Min... 29.882 (2) Range 0.546	75.6 (11) 63.6 48.2 (24) 27.4	83.7 (11) ... 40.1 (25) 43.6	.02288 (4) .01579 .00667 (24) .01621	86 (13) 77 62 (15) ...	15 (2) 10 5 (25) ...	36.0 (21) 12.6 0.0 (12) ...	N. 38° E.	2.46	5.88	Seventeen rainy days.
Nov.	Max... 30.591 (14) Mean 30.264 Min... 29.889 (3) Range 0.702	60.0 (3) 47.4 38.4 (22) 21.6	67.6 (2) ... 29.1 (26) 38.5	.01696 (3) .00826 .00495 (22) .01201	96 (3) 76 49 (10) ...	15 (17) 10 4 (26) ...	36.7 (3) 13.4 0.0 (12) ...	N. 19° W.	2.26	5.79	Twelve rainy days. On the 22nd the temperature fell below freezing point for the first time.
Dec.	Max... 30.690 (10) Mean 30.389 Min... 30.099 (14) Range 0.591	46.6 (28) 37.2 27.5 (30) 19.1	57.7 (28) ... 20.1 (31) 37.6	.00854 (28) .00508 .00285 (31) .00569	83 (1) 70 54 (31) ...	15 (29) 9 7 (27) ...	42.9 (14) 12.9 1.9 (31) ...	N. 40° W.	2.77	0.18	Two rainy days, viz., on the 28th and 29th, after 39 days of fine weather. On the 29th snow for the first time.
1885.											
Jan.	Max... 30.625 (28) Mean 30.391 Min... 30.048 (6) Range 0.577	45.6 (6) 36.5 29.3 (15) 16.3	53.6 (12) ... 24.6 (26) 29.0	.00975 (6) .00521 .00324 (15) .00651	95 (6) 72 49 (28) ...	17 (6) 11 8 (2) ...	31.1 (2) 11.7 0.0 (15) ...	N. 16° W.	1.93	1.98	Eight rainy days.
Feb.	Max... 30.581 (18) Mean 30.336 Min... 30.055 (6) Range 0.526	44.9 (5) 36.9 31.6 (9) 13.3	54.1 (28) ... 24.8 (19) 29.3	.00909 (15) .00522 .00388 (19) .00521	93 (23) 74 65 (15) ...	18 (22) 11 8 (10) ...	32.3 (24) 12.5 0.0 (25) ...	N. 16° E.	1.83	1.68	Nine rainy days.
March...	Max... 30.618 (11) Mean 30.192 Min... 29.707 (22) Range 0.911	62.1 (22) 45.6 35.1 (8) 27.0	80.1 (22) ... 28.0 (12) 52.1	.01396 (22) .00776 .00430 (8) .00966	96 (15) 76 53 (1) ...	21 (15) 13 8 (11) ...	32.9 (28) 14.4 0.0 (13) ...	N. 63° E.	3.00	3.84	Twelve rainy days. On the 20th, at 5.35 A.M., a terrific thunderstorm occurred. On the 15th, during the whole day the quantity of ozone in the atmosphere was the maximum (21).

* Position of British Consulate-General, Shanghai:—Latitude, $31^{\circ} 14' 41''$ N.; longitude, $121^{\circ} 28' 55''$ E. of Greenwich.

NOTE.—The figures in parentheses indicate the days on which the observations to which they are appended were made. Under the headings "Diurnal Mean Temperature in Shade," "Humidity," and "Ozone" they indicate the days on which the mean readings were respectively highest and lowest.

For the above abstract I am as usual indebted to the kindness of the Rev. MARC DECHEVRENS, Director of the Observatory. The only fact recorded in it worthy of special remark is the unusual dryness of the month of December. In that month, by the way, no death from acute disease occurred among foreign adults.

The subjoined return of burials in the foreign cemetery is compiled from the municipal registers and from the sexton's books, the latter obligingly placed at my service by Mr. OLSEN.

BURIAL RETURN of FOREIGNERS for the Half-year ended 31st March 1885.*

CAUSE OF DEATH.	OCTOBER.	NOVEMBER.	DECEMBER.	JANUARY.	FEBRUARY.	MARCH.	TOTAL.
Measles.....	2†‡	...	...	2
Remittent fever.....	2 1§	...	...	...	...	...	3
Cholera.....	...	1	...	...	...	...	1
Diphtheria.....	f 1†‡	1
Tuberculosis.....	...	1||	...	...	...	...	1
Convulsions.....	...	f 1†‡	...	...	...	...	1
Mania.....	1	...	1
Acute cerebral softening.....	1	1
Pulmonary oedema.....	1	...	...	1
Phthisis.....	1†	...	...	2	1	1 1†‡	6
Abscess of liver.....	...	1	...	...	...	...	1
Cirrhosis of liver.....	1	...	...	...	1
Cholera infantum.....	1‡§	...	...	...	...	...	1
Diarrhoea.....	1	...	...	1
Dysentery.....	...	1§ f 1	...	...	1	...	3
Icterus neonatorum.....	1‡	...	...	...	1
Chronic nephritis.....	1	...	...	1
Bright's disease.....	1	1
Gangrene.....	1‡§	...	1
"Disease of the heart".....	1	...	...	1
"Pulmonary catarrh".....	1†	1
"Old age".....	f 1	...	1
"Fever".....	1‡||¶	...	1
"Asphyxia".....	1§	...	...	...	...	...	1
"Hypertrophic cirrhosis".....	f 1	...	...	...	1
"Blood poisoning".....	f 1‡	...	...	1
"Accidental poisoning".....	f 1¶	...	1
"Bursting of aneurism".....	1	1
Accident.....	1	...	2§	...	...	...	3
Suicide.....	...	1§	...	...	...	1§	2
Uncertified.....	...	f 1†‡	...	1	...	...	2
TOTAL.....	7	8	5	10	7	8	45

* Not including deaths (if any) among the Catholic religious bodies, among Eurasians or Japanese; exclusive also of still-births.

† Macao parentage, adult or child (7).

|| Malay, adult or child (2).

‡ Infants of any nationality (11).

¶ Consular certificate (2).

§ Non-resident or child of non-resident (9).

One of the first remarks that this table suggests regards the vague and valueless character of many of the certificates from which it is compiled. "Old age," "Asphyxia," "Hypertrophic cirrhosis," "Bursting of aneurism," and other entries indicated by quotation marks, are as nearly void of meaning as any terms could be. They sink below the average level of slipshod diagnosis.

We may note next the number of deaths from phthisis, 13.3 per cent. of the entire mortality; the ratio, 24.4 per cent., of deaths among infants (chiefly of Macao and Manila

parentage) to the total mortality; the occurrence of 2 fatal cases of measles, both in Portuguese children; the fatal issue in 5 cases of flux from the bowels during months usually regarded as healthy; and the fatal case of cholera so late as November.

Through Dr. SLOAN'S kindness I had an opportunity of visiting this last-mentioned case. The symptoms were well marked. Death occurred on the sixth day, reaction having never been fully established.

Finally, we may notice the absence of small-pox and of enteric fever (and likewise of drowning) from the list of causes of death.

If we subtract 2 cases of suicide and 4 of accident, there will remain 39 deaths attributable to disease occurring in the place during the winter half-year. To this number young children contributed 11. The foreign adult mortality from disease was thus 28 (25 males and 3 females), against 28 (24 males and 4 females) during the corresponding period of 1883-84. A full analysis of the figures follows:—

CAUSES OF DEATH FROM DISEASE AMONG RESIDENT EUROPEAN ADULTS.

Remittent fever	2	Hepatic and intestinal affections	5 (1 female).
Cholera	1	Renal affections	2
Cerebral affections	2	Indefinite	2 (females).
Pulmonary affections	5	Uncertified	1
Cardio-vascular affections	2		

19 males and 3 females, the number for the last previous corresponding period having been 13 males and 1 female.

CAUSES OF DEATH FROM DISEASE AMONG THE CHILDREN OF RESIDENT EUROPEANS.

Convulsions	1 (female).	Indefinite	1 (female).
Icterus neonatorum	1		

1 male and 2 females, against 3 males and 4 females during the winter six months of 1883-84.

CAUSES OF DEATH FROM DISEASE AMONG NON-RESIDENT EUROPEAN ADULTS.

Remittent fever	1	Asphyxia	1
Dysentery	1		

3 males, as against 7 males and 2 females during the corresponding period of 1883-84.

CAUSES OF DEATH FROM DISEASE AMONG THE CHILDREN OF NON-RESIDENT EUROPEANS.

Cholera infantum	1	Gangrene	1
----------------------------	---	--------------------	---

2 males.

CAUSES OF DEATH FROM DISEASE AMONG RESIDENT NON-EUROPEAN ADULT FOREIGNERS.

Tuberculosis	1 (native of Manila).	Phthisis	1 (native of Macao).
Pulmonary catarrh	1 („ Macao).		

3 males, as against 4 males and 1 female in the last corresponding period.

CAUSES OF DEATH FROM DISEASE AMONG NON-EUROPEAN FOREIGN CHILDREN.

Measles	2 (Macao).	Indefinite	1 (Manila, female).
Diphtheria	1 (Macao, female).	Uncertified	1 (Macao, female).
Phthisis	1 (Macao).		

3 males and 3 females, as against 4 males and 1 female in the corresponding period of 1883-84.

No affection was so prevalent during the half-year as to deserve the name of an epidemic. Several cases of enteric fever were reported, and in my own practice an unusually large ratio of the total number observed occurred among children. Measles, whooping-cough and chicken-pox, though not truly epidemic, were widely spread, especially during the latter three months of the period. About the same time ("diphtheria" being then said to have affected several foreign children, chiefly in Hongkew, proving fatal, however, in only one case) many children under my care, and adults also, were attacked by tonsillitis of a particularly acute character, inflammation spreading rapidly to the pillars, to the base of the tongue and epiglottis, and to the back of the pharynx. In several of these cases a "false membrane" was present, but portions of it could always be detached with more or less difficulty, without exposing a bleeding or ulcerated surface. In no instance out of the many that fell under my observation did I feel justified in diagnosing diphtheria, though as a matter of prudence, isolation, either complete (as at the Convent School) or as complete as possible (in private houses), was carried out.

Malarial fevers were neither more nor less prevalent or severe than usual. Several cases occurred afloat during February. Every year a certain number of deaths are due to one form or another of malarial poisoning, and this period offered no exception to the general rule. Neuralgias, and catarrhal affections of the respiratory and intestinal tracts, were, I think, more frequently observed, and more obstinate than is common during winter, while conjunctivitis, by the frequency of its occurrence among foreigners, and its severity, did great credit to the ingenuity of the plan adopted by the Municipal Councils for its spread. I have already* fully described the dangers with which the existing mode of garbage removal surrounds the community. Many cases of hepatitis, in forms of varying severity, came under my observation; but in all, confinement to bed, milk with alkaline waters, salines with chloride of ammonium in large doses or the alkaline bromides and occasional morphia injections were sufficient to bring about resolution.

Perhaps by mere chance hæmoptysis declared itself more frequently than I had before noted in cases of chronic pulmonary disease, and I observe that in one of the deaths from phthisis the termination was directly due to sudden and uncontrollable hæmorrhage, an event at least unusual.

Two cases of acute rheumatism in little girls deserve remark. In both, the children were between 7 and 8 years old, and the knees and elbows were the joints most severely attacked. The highest temperature registered in one was 105°, in the other 105°.2; in one there was delirium when the fever was at its highest, in the other extreme restlessness and anxiety. Both were treated with salicin in large doses, and absolute rest maintained for two weeks after the disappearance of all symptoms; and in neither was there any perceptible physical sign of heart lesion a month after the termination of the attack.

Among zymotic diseases whooping-cough is that, I believe, which the least frequently recurs in the same individual. I have already† noted the curious facts that one attack of Chinese measles does not protect from a second, that it does not protect from English measles, and that the latter does not protect from the form encountered in China. I have now to add that whooping-cough contracted in China leaves the sufferer liable to whooping-cough in England, while the disease when passed through in America does not protect against whooping-cough in China.

* *Customs Medical Reports*, xxvii, 37.

† *Ibid.*, xxi, 96.

One of my own children, who had a very severe attack here in 1878, caught the disease again during a school epidemic in London last year, and suffered as badly as she did in Shanghai six years before.

A young lady, who had gone through whooping-cough in America in early youth, was in constant contact here this spring with three children in whom the disease showed itself with fully average severity. She speedily developed all the symptoms, and whooped and vomited with the cough just as though she had undergone no previous discipline.

The protean forms assumed by malarial intoxication were illustrated in four cases:—

In the first, an idiopathic orchitis was at once suspected to be of malarial origin. This manifestation of malaria has been observed not only here but in many other malarious regions. The pain, heat, redness and swelling disappeared within 48 hours under large doses of quinine.*

In the second, diarrhoea with tormina, which had been treated for a week with laxatives, opiates and astringents without the slightest improvement, yielded immediately to quinine as soon as it was intelligently observed that the flux occurred only at night. At first I attributed the tranquillity of the day to the fact that it was only during the day that medicine was taken.

In the third case, the patient, who complained of nothing during the day except lassitude and lack of appetite, woke regularly at 2 A.M., and remained awake, experiencing an indescribable malaise, until 5 o'clock or thereabouts. Here also a strong dose of quinine at 6 P.M., kept up for three or four nights, dispelled the sleeplessness.

In the fourth, paroxysms of asthma, recurring every second day, in a patient who had long suffered from malarial fever, yielded at once to quinine, but were immediately succeeded by an ordinary attack of fever, which lasted, notwithstanding persistence in the treatment, until arsenic was exhibited in full doses.

I possess notes of many cases wherein cough, neuralgia, cardiac oppression, night terrors, epistaxis, hæmorrhoidal pain and bleeding, effusion into joints, urticaria, epididymitis or orchitis replaced, or alternated with, paroxysms of malarial fever. The subject is a very wide one, and has not as yet been systematically treated.

A graver instance of malarial poisoning is the following:—

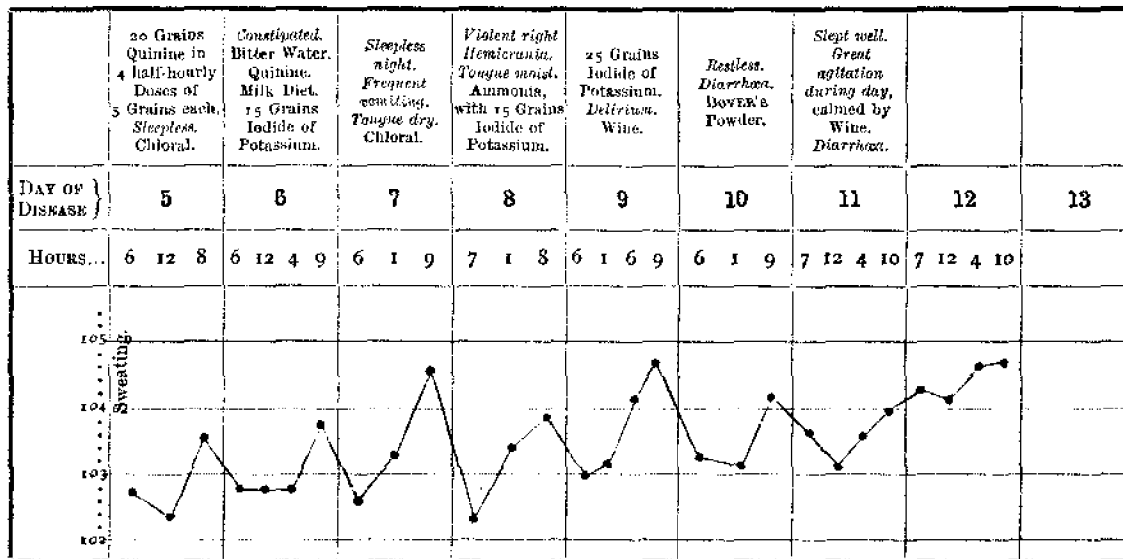
The patient, male, aged 33, had five years before suffered from right hemiplegia and aphasia, coming on suddenly, and lasting for 36 hours. Specific history. There was no loss of consciousness at the moment of the attack, the patient clearly describing afterwards his sensations. He felt dazed, found his right leg tingling and becoming numb and then powerless, his right arm following. He attempted to call for assistance but could not frame the necessary words. The intellect was not in the least impaired; there was no implication of any of the cranial nerves (tongue protruded very slightly to the right); neither anaesthesia nor hyperaesthesia was anywhere to be found; and there was no exaggeration of the deep reflexes on the right side. Under energetic treatment recovery was to all external appearance complete, but every few months subsequently, complaint was made of left hemicrania, with formication in the right arm and leg. These symptoms always yielded rapidly to iodide of potassium. 18 months after the attack of hemiplegia, and at the close of one of the periods just mentioned, the patient passed through typhoid fever of well-marked character. All the classical symptoms were present, and on the 13th day of the disease a rapidly-spreading ulcer appeared on the back of the pharynx, from which hæmorrhage was so profuse as to threaten a speedily unfavourable ending. Recovery, however, ensued, and with exception of the menacing reminders referred to, and occasional feverish attacks always amenable to quinine, health seemed perfectly re-established.

On the 9th October the patient felt one of these attacks coming on, and took quinine. Late at night on the 12th he wrote saying that he had caught cold and had a stitch in his side. This yielded to a dose of DOVER'S powder, and gave no further trouble. Early next morning I found him with a

* *Dublin Journal of Medical Science*, Feb. 1872; *Lancet*, 1881, i, 161, 577.

temperature of 102° 8, but feeling his condition so little that he insisted on going to his office, which, however, was prevented. The chart below indicates the course of the temperature curve.

CONTINUED MALARIOUS FEVER. Fatal. October 1884.



Temperature taken in mouth till 9th day; afterwards in axilla.

It came out subsequently that about noon of the 12th day the patient suddenly roused himself, said he felt hungry, and ordered a large meal of miscellaneous character, including cheese and fruit. This he ate with relish. At 4 P.M. I found him in profound collapse, after having had three very copious fluid evacuations. From this condition he did not rally.

Aphasia of specific origin was here associated with right hemiplegia. I have, however, notes of several cases (three observed by myself) where the lesion producing the aphasia being certainly, or in all probability, specific, the hemiplegia was left-sided.*

In the case related above, either (1) there was a lesion implicating the membranes corresponding to nearly the entire motor area on the left side, which seems unlikely; or a lesion perhaps of very small extent had sufficed (2) to produce sudden intense vascular congestion throughout the whole cortical domain of the middle cerebral artery, or (3) to induce phenomena of inhibition without any anatomical change. The rapidity and completeness of recovery pleads in favour of the last supposition.

GENU VALGUM.—The accompanying wood engravings are cut from tracings of photographs. They represent respectively the condition of a Chinese girl, 10 years old, immediately before and 3 months after MACEWEN'S osteotomy. The case was under my charge at St. Luke's Hospital last January. It was apparently an ordinary one enough, and is worth recording only on account of the unexpected difficulties offered by the exceeding density of the bone, the

* As these pages are passing through the press, I am informed of a lecture delivered last year before the College of Physicians of Philadelphia by Professor H. C. Wood, in which statistics are quoted from TANOWSKY (*L'Aphasie syphilitique*), showing that syphilitic aphasia is associated with left-sided hemiplegia in an extraordinarily large ratio of cases. Thus, in 53 cases collected by the author just cited, left-sided hemiplegia occurred 14 times, and right-sided hemiplegia 18 times, the remaining 21 cases being not at all hemiplegic.

serious interference with the tissues which these difficulties rendered inevitable, and the final good result in spite of this interference—a result which could hardly have been realised but for the rigorous use of antiseptics. All the operations and dressings were performed under carbolic spray.



Chloroform having been administered, and the limb rendered bloodless and embedded in a pillow of moist sand, the skin was drawn tightly round the thigh, and the usual incision in the soft parts was carried directly to the bone. The incision was $\frac{1}{2}$ inch long in the axis of the limb, its middle point corresponding to the intersection of two imaginary straight lines, one horizontal, a finger's breadth above the level of the upper border of the external condyle, the other vertical, $\frac{1}{2}$ inch anterior to the anterior edge of the adductor magnus tendon. The osteotome was slipped down by the side of the scalpel before withdrawing the latter, and was lightly turned through a right angle. There was no bleeding.

Beginning at the postero-internal border, the osteotome penetrated with ease until about half the thickness of the bone had been traversed. It then refused to go farther. A smaller instrument was introduced, but the same difficulty was experienced. Additional force was thrown into the blows, and the head of the mallet flew into half a dozen pieces. A lead-faced hammer was procured, and further attempts made, with no other result than to chip off one corner of the edge of the osteotome, the fragment remaining in the bone. The wound was accordingly syringed, a gauze dressing applied, supported by a long splint, and further attempts were postponed. The temperature rose to $101^{\circ}.5$ on the next day, but immediately fell, and no untoward symptoms of any kind presented themselves.

Fourteen days after the first operation, the dressing was removed, and a little dry blood alone found on it. A counter-opening was made on the outer side of the limb, the adhesions closing the first wound were broken down, and a burglar's saw was drawn across the posterior surface of the femur, along a track made for it with a slightly flexible director, the point of which was carefully kept in contact with the bone. After a few moments the saw broke. A narrow-bladed saw with somewhat disproportionately broad back, designed for subcutaneous section of the neck of the femur, was now introduced through the last-made wound, and the undivided portion of the bone was patiently attacked, and nearly cut through. The bone was then snapped, the wound syringed until the solution used returned uncoloured, the limb was straightened, a gauze dressing applied, and external and internal splints firmly strapped on. The temperature ranged between 99° and 100° for 5 days, when it fell to normal. On the 8th day the dressing was removed, as it had shown a slight stain at the lower edge. There was no pus, and the wounds were healthy. A fresh gauze dressing was put on, with plaster of Paris over all. The temperature rose that evening to 100° , but fell to normal next day. The limb was not disturbed for 32 days, when the plaster had begun to get loose. The wounds were found closed, with a thick scab over each. Plaster casing was reapplied, and the child encouraged to walk about. She remained in hospital quite well, walking without any limp, until the end of April, when a photograph was taken, and she was discharged.

AN ATTEMPT AT CHINESE VITAL STATISTICS.

The absence of any reliable system of registration among the Chinese renders it impossible to obtain information of a statistical character regarding population or birth and death rates worth having, so long as native records are alone available. Yet such information might be of some importance and would certainly be of interest. It struck me that the Christian population of this province, numbering about 100,000, and drawn from all classes, from well-to-do traders and agriculturists to the poorest fisher folk and farm labourers, was sufficiently large numerically and sufficiently representative socially to afford a basis for calculation, and I knew that accurate birth and death registers had for some years been kept by the Jesuit priests in charge of the various districts. With their unflinching kindness, the heads of the Catholic Mission here at once placed those registers at my disposal as soon as I expressed a wish to see them. From them, or at least from such of them as covered a minimum period of eight years, I have, not without labour, compiled the subjoined table. It seemed prudent to confine attention to the groups of figures relating to tolerably long periods, as otherwise the effects of accidental and altogether unusual conditions might remain unbalanced.

The table may be summarised thus:—

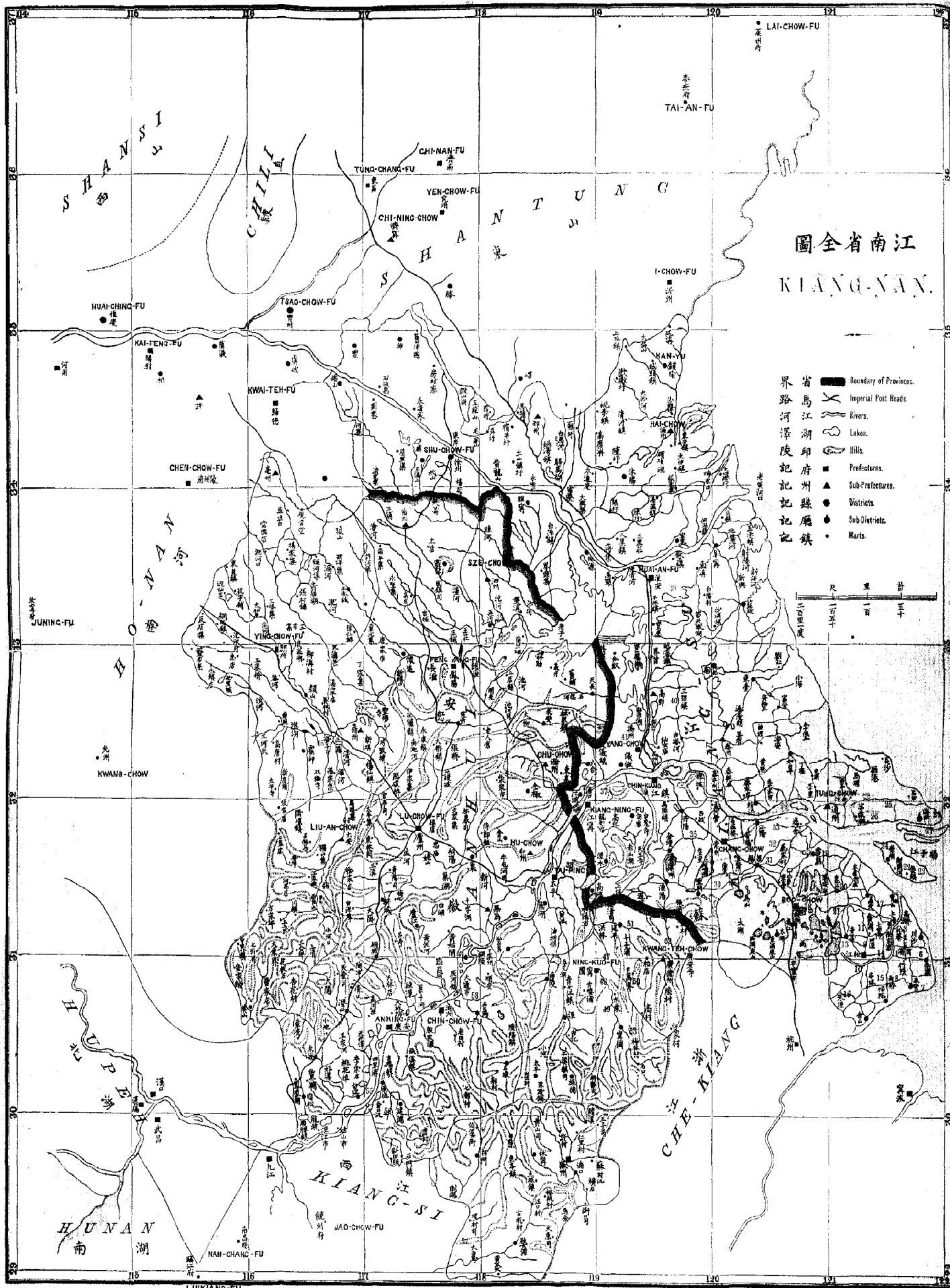
Average population dealt with	89,074,000
„ annual births	3,334,490
„ „ deaths	2,757,340
„ „ per-centage of births	3.743
„ „ „ deaths	3.095
„ „ „ increment of population	0.648

Supposing the conditions of life uniform or nearly uniform all over China, and assuming that the actual population of the Empire is 300 millions, the average annual increase in the population would be nearly 2 millions. But a conclusion of this kind would be illegitimate, partly on account of the uncertainty which hangs over all existing estimates of population, and partly because the region dealt with is the most fertile in the Empire, and therefore probably the one where the birth rate is the highest.

TABLE showing BIRTH and DEATH RATES among certain GROUPS of NATIVES of KIANGNAN.

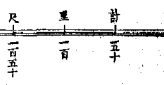
DISTRICT.	Period over which Averages extend.	Average Christian Population.	Average Per-centage of Births to Population.	Average Per-centage of Deaths to Population.		
				Adults.	Children.	Total.
NANKING.....	18 years	458	2.90	...	...	1.90
SOOCHOW.....	18 „	7,462	3.60	1.30	0.90	2.20
TAICHANG, including TSUNGMING.....	18 „	15,921	4.05	1.90	1.74	3.64
SUNGKIANG.....	18 „	48,195	3.80	1.87	1.31	3.18
CHANGCHOW.....	18 „	7,874	3.63	1.15	1.26	2.41
CHINKIANG.....	18 „	504	2.52	1.85	1.30	3.15
HWEIAN.....	18 „	171	2.92	...	...	2.89
YANGCHOW.....	18 „	329	1.75	...	...	2.35
TUNGCHOW.....	18 „	1,122	2.71	1.80	1.08	2.88
HAIMEN.....	18 „	3,675	3.66	1.52	1.35	2.87
ANK'ING.....	17 „	32	1.47	...	...	1.66
YINGCHOW.....	11 „	95	2.87	...	...	2.68
LUWAN.....	10 „	60	0.50	...	...	4.33
SICHOW.....	18 „	439	3.53	...	...	3.00
HWEICHOW.....	17 „	50	2.94	...	...	5.64
NINGKWO.....	16 „	1,670	2.99	2.45	1.10	3.55
CH'ICHOW.....	16 „	267	2.62	...	...	5.16
TAPING.....	8 „	25	4.00	...	...	1.00
KWANGTÄ.....	14 „	725	2.19	...	...	2.79

Since the text was in type I have received the statistics for the year 1884-85. Summarising the tables, which deal with a population of somewhat over 103,000, the death rate (including children) was 30.56 per thousand; the birth rate (estimated by the baptisms, which may be a little below the mark) was 29.22 per thousand; and the marriage rate (doubled on the assumption that the sexes nearly balance one another as to number) was 16 per thousand.



圖全省南江
KIANG-NAN.

- Boundary of Provinces.
- Imperial Post Heads
- Rivers.
- Lakes.
- Hills.
- Prefectures.
- Sub-Prefectures.
- Districts.
- Sub-Districts.
- Marts.



DESCRIPTION OF THE COUNTRY BORDERING THE LOWER YANGTZE.

For the purposes of these Reports, a description of the region within which the excursions of foreign residents in Shanghai are mainly confined, and from which are drawn all or almost all the natives who seek relief at the Shanghai hospitals, cannot lack interest.

Beginning with the irregularly quadrilateral peninsula whose water boundaries are the Hwangpu, the sea, and Hangchow Bay, Pootung for the most part consists of a marshy plain, but little above sea level, intersected by innumerable creeks, through some dozen or score of which, opening into the Hwangpu, the tide reaches far into the interior of the region, failing, however, in the west at or about the meridian of Sungkiang. In the centre of the peninsula and towards its western boundary, the ground rises and the creeks become few in number and of small size, sufficient for irrigation, but not for intercommunication by boat. This latter mode of travelling is feasible and prevails over the remainder of the region. The country is but scantily wooded, and such tree-covered land as exists is chiefly found in the district farthest west.

On the left bank of the Hwangpu the country between the Yangtze and the lakes is level, low-lying and, generally speaking, well watered, although the creeks are in some districts impassable by boats. The alluvial land actually in process of formation in the neighbourhood of Shanghai is marshy, but this character is lost in the older parts of the region. In the lake district itself around Soochow and between that city and the Yangtze, the level ground rises somewhat more markedly than elsewhere from the navigable creeks which intersect it in every direction, and through which there is a constant interchange of water between the Yangtze and the Taihu on the one hand, and between the Taihu and the Anhwei waterways on the other. Ranges of hills, few of which attain any great elevation, surround Soochow on the west and north, and to a less degree on the east.

West and north of the Taihu is a region of lake and mountain well watered, and here and there marshy, especially between Wuhsi and the Yangtze. A succession of marshes extends along the bank of the river to Nanking, which city is surrounded by hills rising towards mountain chains. This general character is preserved along both banks of the Yangtze, from the mouths of the Grand Canal to as far west as we are at present concerned with. The country inland is hilly, the hills being mostly covered with brushwood, while between the bases of the hills and the river the land is marshy and intersected by creeks. South-west of the Taihu, the prefecture of Kwangtê is completely surrounded by mountains, the interior being hilly, and the watercourses in many places mere torrents foaming over sand and pebbles into lakes of greater or less size. Farther to the west, and approaching the Yangtze as it runs nearly due north and south between Nanking and Wuhu, the country presents alternations of hill and valley, and is intersected by mountain streams mostly converging to a river as clear as crystal, which, rushing tumultuously over a sandy bed, carries all the water of Kwangtê into a great lake surrounded by marshes, due east of Taiping. Thence it emerges to join the Yangtze by several outlets between Wuhu and Taiping. From the mountain torrents rivalets are artificially diverted for irrigation purposes. Immediately south of the

district just described, the Ningkwo prefecture is for the most part flat and marshy, but diversified by hills, some of which might almost be called mountains. In its southern part the watercourses are navigable by ordinary boats during the rainy season (May to July), when inundations are not uncommon. Towards the west, that is, approaching the Yangtze, sandy hills, once well wooded, are now bare of vegetation.

North of Yangchow, and reaching to the old bed of the Yellow River, the surface of the country is mostly under water, wide creeks running from every direction into extensive lakes and marshes. The region at the mouth of the Yangtze on the north bank is known as the Haimén (海門) peninsula, and is under the rule of the Tsungming officials. With the exception of five hillocks close to the sub-prefectural city of Tungchow, the land is perfectly flat, its greatest elevation above the average river level being 15 or 20 feet, at a distance of 15 or 20 *li* from the coast. In the eastern portion of the peninsula water is reached at a depth of a few inches. It is cut up by innumerable ditches of considerable width and depth, which communicate neither with one another nor with the Yangtze. Accordingly, rain water and drainage accumulate in these reservoirs and remain until evaporation occurs. The coast line is indented by little coves, generally the mouths of small streams, which carry the tide a short distance into the interior.

Passing now to the islands which lie at the mouth of the Yangtze, the largest, Tsungming, is of exclusively alluvial formation, nothing more lofty than a grave-mound being anywhere to be seen. It is intersected by a vast number of more or less neglected creeks, which become impassable 3 or 4 *li* from the coast. The soil, especially in the western half, is excellent. North of Tsungming the island of Hsiaosha (沙) is in process of rapid increase. It is perfectly flat, and a mere marsh.

The soil of this province is rich, and for the most part yields two harvests in the year. A spring crop of cereals, rape, leguminosæ, etc., is followed by rice and cotton, the relative proportions of these latter varying with the nature and elevation of the ground. Edible vegetables of the most various kinds are found everywhere. Comparatively little fruit of good quality is cultivated. The peach, apricot and pi-pa deserve mention. Oranges and grapes are grown here and there when the surroundings are favourable. The wild grape, jujube, and pomegranate, and apples and pears of very inferior kinds, almost complete the list of eatable fruits. Melons and cucumbers are abundant, and are consumed by the poorer people in a raw state and often while still unripe. Floriculture receives attention round Yangchow. On the higher land indigo is occasionally to be seen, and hemp is largely cultivated in the west and south of the province, and also round Soochow, where, however, the mulberry takes an important place. The Wuhsi district, north of the Taihu, is widely renowned for the culture of silk; but on the western side of the lake great tracts lie waste or bear only a few scattered mulberry trees, relics of the richness of the region in the days before the Taiping rebellion.

The tobacco plant is cultivated at and round Nanking to the southward. South-west of the Taihu, in the Kwangtê sub-prefecture, silk is the staple product, but the poppy begins to compete with it in importance, and tea is grown on the hills. On the high lands here and farther to the west a reed is collected whence a coarse yellow paper is locally manufactured.

In the Ch'ihchow prefecture, which borders Kiangsi to the north-east, maize, buckwheat and ginger, together with indigo and other plants used for dyeing or in medicine, supplement the staple cereals. Rice fails on the borders of Kiangsi, but cotton is produced in great abundance. In the extreme west, along the Honan border, tea and cereals displace all other crops. Sorghum assumes some importance round Nanking.

Salt is collected along the coast. The bamboo and the willow are found everywhere.

The climate is of medium character throughout the province. Extremes of heat and cold are more frequently experienced in the hilly districts to the west and south-west of the Taihu, and in the lake region eastward of the Grand Canal, than in the sections of country bordering the coast and the Yangtze. In the parts specified snowstorms are frequent, severe and long continued during January and February, and here also the summer is hottest. The island of Tsungming, being absolutely without shelter, is occasionally devastated by storms which in an hour or two sweep away the greater portion of the growing crops. With these exceptions, the province enjoys for the most part a moderate average of heat and cold, of rain and clear weather. The early spring rains are succeeded by a dry season which closes with rain in June and July. The autumn is usually dry, with occasional thunderstorms. It is but rarely that the creeks are ice-bound in winter.

The inhabitants of this province are, like the rest of the world, mainly traders and agriculturists. In the rural districts there are few wealthy families, the country having never recovered from the devastation caused by the great rebellion. All are almost dependent on each year's harvests, whether of cereals, cotton, silk, or tea. As a general rule each small proprietor cultivates not more (and often less) than 10 *mow*. Farms of 60 or 70 *mow* are the exception. On the other hand, mendicancy is rare. In the extreme west there is much misery, the inhabitants in lack of cereals living to a large extent on roots, chiefly those of the *ko* (葛) and *ch'ieh* (蕨), the latter a species of fern. In the swampy lands close to the mouth of the Yangtze on the north bank, cotton is the only crop, and this has failed for the last three years. Here a woman can by an entire day's work at spinning or weaving now earn no more than 3 cash, and a man about 20. To the north, west and south-west of the Taihu the original owners of land form about one-tenth of the population, the remainder being immigrants from Hupeh, Honan and Kiangpeh. The former are tolerably well off, the latter are sunk in poverty. Deep animosity exists between the two classes. The fishing industry is very largely developed in this part of the country.

Taking the province as a whole, the people show but little mental activity. The better sort are occasionally intelligent, but the poorer folk are ignorant and stupid, and the salt-gatherers are barbarous. In the cities, of course, wealth is well represented, and some attention is paid to polite letters. Nanking, Yangchow, Auk'ing and Soochow are literary centres, the viceregal capital especially, as the scene of the great triennial examinations. Two or three other places appear to be chosen retreats for scholars. Such are Tungchow on the north bank of the Yangtze, near its mouth, and Kingsien in the Ningkwo prefecture. The higher class of traders can generally read and often write; but any literary people found in the villages are mostly disappointed candidates for degrees, and many of them are opium-smokers. It is noticeable that, leaving the fishing population out of consideration, the inhabitants of the Soochow district are exceptionally intelligent. To resume what may be said on this subject,

intelligence goes hand in hand with easy circumstances, and such circumstances are found almost exclusively in the cities. Thus, for example, Yangchow and Soochow, standing in districts of exceptional fertility, are frequented by scholars and skilled artificers, and even the day labourers are remarkably clever and independent.

The number of opium-smokers varies from one district to another. It is estimated that seven-tenths of the inhabitants of the Kwangtê prefecture are consumers. The practice is so prevalent about Ningkwo-fu that even the natives profess to anticipate a rapid extinction of the population in consequence of it. The number is also very large, and increasing, among the dwellers in the marshy lands along the right bank of the Yangtze, near the Kiangsi border.

The villagers and country people throughout the greater part of the province are sufficiently fed, and the markets are as a rule tolerably supplied. The diet is simple and monotonous. Rice, with fresh or salt vegetables cooked in water, forms its base; to this are added fresh or pickled eggs or fish, and pork by the better off, and occasionally, at feasts or in honour of guests, fowl, duck or goat. Buffalo meat is rarely eaten, and then only when an animal has died of disease or is killed in a dying state. Beef, however, is consumed by the Mahometans, who are numerous in the Ch'ihchow prefecture, opposite Anking. Dog flesh and asses' flesh are not unknown in certain districts, notably near the Taihu. The list of common aliments further includes eels, tortoises, frogs, fresh water shell-fish, shrimps, crabs and oysters. In the poorer districts the food offered for sale is, especially during summer, often half putrid. Coarse black unleavened bread, made from maize or rye, is found here and there, but is invariably hard and indigestible and therefore innutritious. At the mouth of the Yangtze on the north bank, and in the adjacent islands, where the people are sunk in poverty, and rice is scarce and bad, few can obtain more than two meals a day, and the majority have to content themselves with one. It is only the richer folk who can afford rice. The greater number eat a mixture of one part of rice and nine parts of barley, maize or rye, crushed, and cooked by steam into a stiff porridge, which speedily becomes hard. Salted cabbage is sometimes added, or a little dried fish.

In this last-named region the well water is extremely impure, and so brackish as to be unfit for domestic use. The water drunk, which is generally first boiled, is drawn from the ditches. There is but little tea to be had, and that is of very inferior quality, often stained with pigs' blood in order to make a better show when infused.

In more favoured districts the farmers, shopkeepers and other householders generally drink tea, or river or creek water that has been previously cleared with alum and heated. Those are esteemed fortunate who possess good wells or can collect rain water. In the hill country where torrents abound, mountain water cannot be drunk with impunity unboiled or undiluted with alcohol. It is believed to produce anasarca, and intestinal disturbance accompanied by fever. At Nanking there is a prejudice against well water, and the drinking supply is drawn exclusively from the river. As a general rule the Chinese are careful as to the boiling of water, but boat people and field labourers are often neglectful in this respect, and in summer may frequently be seen drinking unboiled creek water which is full of all sorts of organic and inorganic impurities derived from the drainage of the fields, leakage from nightsoil receptacles, sinking of nightsoil boats, and the washing of clothes, buckets and other domestic articles stained with miscellaneous filth.

The only alcoholic beverages commonly consumed are a coarse spirit distilled from rice and other grains, and a home-made sweet wine, somewhat resembling metheglin, which is prepared from the *oryza glutinosa*. Grape wine is too expensive to come into general use.

It is to be observed that the custom universally prevails of washing rice and vegetables in the same water, at the same place and often at the same time as the family night-stool. The influence of this on the propagation of intestinal disease cannot be over-estimated.

The conservation of nightsoil is everywhere a matter of importance, not only to those who, needing a supply of manure for agricultural purposes, carefully preserve what is produced in their own homesteads and solicit contributions from outside, but to a large class who make a living by trading in or by transporting this commodity. Each farm has a jar conveniently placed for the reception of excrement, sometimes immediately by the house door, sometimes by the road-side. When a sufficient quantity has accumulated it is removed and stored either in immense wooden or earthenware vats or in pits lined with masonry. Here it undergoes evaporation up to a certain point, and thence it is drawn, to be mixed in determined proportions with water and used for manure. These receptacles are generally sheltered from rain, and usually, but by no means universally, they are so placed as to prevent contamination of neighbouring pools or watercourses by leakage or overflow. This precaution, when taken, must not, however, be placed to the credit of any notion of hygiene or even of common cleanliness. The contents of the vats are too precious to be lightly wasted.

In the islands and on the adjacent north bank, abject poverty secures thorough house ventilation, as the inhabitants are obliged to construct their dwellings out of reeds. This offers a certain amount of protection against contagious disease. It may be noted in passing that throughout Tsungming, except in the city, all the houses are built, not north and south, but in the direction N.N.E. to S.S.W., at right angles to the major axis of the island.

While certain classes of disease are everywhere encountered, other forms are more or less strictly limited in their distribution. None probably are absolutely local. Malarial affections are of course found through the length and breadth of the province, yet in the neighbourhood of Shanghai they appear to be for some obscure reason less prevalent on the right bank of the Hwangpu than on the left. There is a region on the right bank of the Yangtze immediately abutting on the Kiangsi frontier which has attained such an evil notoriety that it is nicknamed *Pi-han hsien*, fever district. The island of Tsungming has also a specially bad reputation. There, there is an annual partial clearing of the creeks and ditches from accumulated silt. If this is done in winter few or no hurtful results follow, but if, as is commonly the case, it is done in summer fever rages through the island. Spring and autumn are the seasons during which malarial diseases prove most formidable, but thousands of the country folk are never free from one form or another of paludal intoxication, which they bear with philosophical patience, without making any attempt at treatment unless by chance they hear of a foreigner, missionary or other, who is in possession of a supply of quinine. Him they besiege. Light attacks of fever occurring in persons not already cachectic are said to be often successfully treated by native practitioners by means of evacuants and sudorifics. The most common type of intermittent is the quartan; then quotidian, which, however, appears often to be rather a double tertian.

Typhoid fever is likewise found everywhere; in the islands at the mouth of the river as well as on the mainland. It often assumes a malignant form, and is doubtless frequently confounded with the later stages of neglected remittent and with typhus. This latter sometimes makes its appearance in overcrowded villages about May, but commonly later, succeeding or accompanying the epidemic of choleric form disease which annually during summer and autumn proves extremely destructive in almost all parts of the province. Whatever the nature of this "cholera" may be, whether it is choleric form intermittent fever or extremely acute gastro-enteritis, it is constantly and rapidly fatal. Children are often attacked, and almost invariably die. The symptoms are diarrhoea (often with tormina), vomiting, collapse and cramps. Native treatment consists principally in scraping the skin in various regions of the body, energetic friction, massage and acupuncture. The incidence of cholera is sometimes remarkably capricious. Thus, last year, in the Sungkiang district, of two hamlets separated merely by a creek, and whose inhabitants live under apparently identical conditions, one lost 2 children only, while the other lost 1 out of every 14 of its total strength. Dysentery, typhus or typhoid come again into prominence when with the close of the fruit season cholera dies away. Curiously enough, the Chinese recognise the difference between typhus and typhoid, and assert that where one prevails the other is almost or entirely unknown. Measles (sometimes followed by gangrenous stomatitis) and small-pox are fatal to great numbers of children during winter. The ravages of the latter disease are encouraged by the still prevalent practice of inoculation through the nostrils. In Tsungming, to say nothing of cases fatal to life, out of 12 or 15 children in a village school, two or three will probably be found blind or otherwise rendered helpless by small-pox. Vaccination, so-called, is spreading, but in native hands it becomes above all a means for gaining a livelihood, and no care is taken about either the genuineness or purity of the stuff inoculated. Instances have been reported in which serious trouble has arisen from the inoculation (under the name of vaccination) of purulent, decomposing or specifically contaminated liquid. Spring is accompanied by scarlatina and whooping-cough, which carry off crowds of victims, many of whom have been enfeebled by disease passed through during the winter. Considering infant mortality by itself, it may be stated generally that in the rural districts and among the poorer artizan class in cities, between 60 and 70 per cent. of all children born die within the first year. Want of care, want of nourishment and of clothing account for much of this. Autumn is the most fatal season to young children who have escaped the dangers of their first year. The maladies which carry off the greater number of children are (roughly in order of frequency), diarrhoea, small-pox, malarial fevers, measles, dysentery, cholera and scarlatina. At Haimên children between three and four years of age die in large numbers of a disease which from its description I take to be *æthyma cachecticum*.

Hæmoptysis, often without serious lung lesion, is very common. A Chinaman spits blood with almost as little concern as a foreigner feels about a cough.

It is difficult to obtain reliable information about phthisis. There is much chronic bronchitis, probably largely tubercular. Anyone dying in a cachectic condition is said to die of *lao-ping*, under which phthisis, with a score of other maladies, is included. Literary men, opium-smokers and silk-weavers are specially indicated as prone to contract the disease.

Eye affections of all kinds and skin diseases, both parasitic and non-parasitic, abound.

Elephantoid infiltration of the skin of the legs, rarely but occasionally extending above the knees, is common, but is seldom sufficiently developed to prevent locomotion. Anasarca probably of rheumatic origin attacks many, as well the inhabitants of the highlands as the rice-cultivators in marshy lowlands. In one district west of Sungkiang, on the opposite bank of the Hwangpu, more than 1 per cent. of the population suffers from this disease. The hill folk attribute it to the drinking of water drawn from mountain streams, of which water, even when boiled, they stand in great dread. Dry, scabby, ulcers abound alongside of this form of anasarca.

Among the diseases less widely spread, the following deserve notice. Goitre is found on the north coast of Hangchow Bay, and elsewhere, chiefly among the inhabitants of the most elevated hill country. Lepers are not uncommon in the Wuhsi district. Idiopathic noma is very common and fatal among newly-born children in a small district known as Changking (張涇), to the north-east of Soochow, while 10 miles off it is totally unknown.

Near Changchow a form of hysterical mania among adult males is observed. The patient acquires the impression that his abdomen is inhabited by some animal, often a rat, whose excursions cause violent local pain. Unheard-of efforts are made to expel the intruder, and often the savings of a whole family for a lifetime are wasted on bonzes, sorcerers, doctors, and other quacks in hope of obtaining relief for the sufferer. It is reported that in many cases death occurs from suffocation in the course of a violent convulsive paroxysm. The patient leads a double life, marked by the use of two voices of different timbres. As a rule his disposition alters in correspondence with the change of voice. Morally and mentally he is a different being in the two states. Whatever occurs during the period betokened by the unnatural voice is totally forgotten during the normal period.*

Apart from the annual occurrence of cholera already mentioned, it is but rarely that any noteworthy epidemic rages. In one year there will be more typhoid fever than in another, or more small-pox, or what is called typhus will prevail. Or one of these without being more widespread than usual will prove more fatal. But a scourge arising suddenly, or imported, and sweeping over the country to disappear after a longer or shorter period, is practically unknown.

The mortality last year in the various districts reviewed varied from 10 per thousand in 常熟, north of Soochow, to 50 per thousand in 馬橋, on the river bank, half-way between Shanghai and Sungkiang.

* It appears that much information about nervous disease in remote parts of the world is buried in missionary reports and religious journals, and is therefore mostly lost to the medical profession. The following extract from *The Christian* of 17th September 1885, page 19, furnishes a striking instance in point:—

Mr. J. E. K. STUND told to a deeply interested audience of men in the East Hall the story of the "Cambridge Seven" who lately proceeded to China as missionaries. * * * Mr. STUND told of a case of divine healing in Peking in answer to the prayer of Mr. STANLEY SMITH and Dr. MACKENZIE. A man suffering from epilepsy who was regarded as incurable was anointed and prayed over, the result being his perfect restoration to health.

Again, in the last Report of the Peking Hospital, Dr. DUDGEON refers to the "Biblical method of casting out devils" successfully practised by the Rev. Dr. NEVUS of Chefoo, and humorously announces his inclination to try the Scriptural plan in future cases of demoniacal possession.

Instances of great age attained in the more fertile rural districts are not rare.

An epizootic, said to have been imported from Chékiang, swept away last year an immense number of cattle in the Yangtze and Hwangpu valleys. Almost annually during summer, epizootic disease (瘟病), varying in intensity from year to year, declares itself among the cattle in this and neighbouring districts. Every autumn also, vast numbers of pigs die of some contagious malady not described. The symptoms of the disease which attacks horned cattle are tremor of the limbs, followed by violent watery or bloody diarrhoea, decubitus, and death within a few hours. As before noted, beasts obviously dying from this or from any other malady or from old age are killed for the market, and it does not by any means appear that the poor who alone buy beef offered for sale under these conditions invariably suffer in consequence of consuming it. Many fatal cases of poisoning have, however, been reported. The comparative immunity from evil results is probably due to the facts, (1°) that no distinction is made between the flesh of beasts dying of simple maladies, exhaustion or old age, and that of those dying of cattle plague; (2°) that meat altered in colour is refused by even the poorest; (3°) that most purchasers salt and dry the meat before cooking it; and (4°) that in every case it is thoroughly cooked in small pieces.

The bodies of animals which die too quickly to be killed are thrown into the nearest watercourses. Even the natives at one place (張徑) openly recognised last year that the plague was spread by this practice, but for some superstitious reason they continued it just the same. Great numbers of plague-stricken cattle are cast into the Hwangpu, a fact not without interest for us.

Allied to the question of the danger of eating the meat of diseased animals is that of the danger of eating the meat of poisoned birds. All through winter on the little islands to the north of Woosung the fishing folk capture wild duck and wild geese by poisoning them with nux vomica. A strychnos nut is cut in two, and to each half a scrap of sedge, of reed or of other grass is attached by an encircling cotton thread. Numbers of these bait are spread over the mud and are eagerly gobbled down by the birds, which die within a few minutes. Next day the bodies are collected and sent for sale to Shanghai.

DR. B. S. RINGER'S REPORT ON THE HEALTH OF AMOY

For the Half-year ended 31st March 1885.

IN the early part of October another case of pernicious remittent fever, similar to those noted in my last Report,* took place. The fever terminated fatally on the 6th day, the temperature reaching 109° F. an hour before death.

During the cool months of winter malarial fevers and diarrhoea ceased, and the general health of the foreign community, with but few exceptions, again became excellent.

Eight births took place.

One of these was a breech presentation in a primipara. The case was left to nature, and terminated quite satisfactorily and without any undue prolongation of the labour.

All the other cases were natural.

Three deaths have to be recorded.

The first case, mentioned above, resulted from pernicious remittent fever; the second case was due to aortic aneurism; and the third to capillary bronchitis.

The aneurism was treated in the Seamen's Hospital. The following are the notes of the case:—

R., a powerfully-built Englishman, 38 years of age; had been a sailor for many years, and enjoyed robust health. He had never suffered from syphilis, and seemed to have led a moderate life. Admitted 21st October 1884.

On examination, a tumour about the size of a small orange was found somewhat to the right and upper part of the sternum, which, with the three first costal cartilages, seemed to be absorbed. The tumour pulsated visibly, and the heart sounds were audible all over it.

Aortic aneurism was diagnosed, probably occupying the ascending and part of the transverse portions of the arch.

The patient was put upon full diet, but with as little liquid as possible. Iodide of potassium was ordered in doses of 25 grains three times daily. This was well borne by the stomach, and in two or three weeks was increased to 30 grains.

Being very restless at night, $\frac{1}{4}$ grain of morphia was injected subcutaneously at bedtime.

A few days after entering the hospital severe pain was experienced in the left side of the chest, which was relieved by morphia. On the 1st November the tumour began to enlarge upwards, and difficulty in swallowing was sometimes experienced; the breathing was obstructed by mucus, which the patient feared to expel, as coughing produced a suffocating sensation.

From this time forward the patient's condition became most distressing, not only to endure but to witness. Great œdema of the left arm occurred, rendering it almost useless.

The sudden, sharp and often long-continuing pain from time to time shooting through the tumour to the shoulder and root of the neck, the violent attacks of dyspnoea, the overpowering dread on the part of the patient (who thoroughly understood his condition) of dissolution during such spasms, his craving

* *Customs Medical Reports*, xxviii, 50.

for morphia to ease his sufferings, and even on one occasion his inarticulate cries, during a painful spasm of dyspnoea, at length forming the words "Poison me!" the mental and physical struggles of this powerful man, with all the strength and vigour of manhood, yet with the certainty of a terrible doom upon him, and with the daily, and even hourly, possibility of the now thin and livid surface of the tumour giving way externally, with all its concomitant horrors, rendered this one of the most sad and painful cases it has ever been my lot to treat.

During the progress of the disease the various symptoms were combated as they arose, but morphia was the drug most relied upon to relieve the pain, and it was found that the hypodermic injection of $\frac{1}{2}$ grain three times daily was usually sufficient to afford great alleviation of the suffering and to induce several hours comfortable sleep.

The patient carefully followed out instructions with regard to diet and medicine. He continued the iodide to the end, and only rose from the recumbent position when absolutely obliged, and restricted his liquid to a painfully small quantity. Unfortunately, all was to no purpose, for on the 11th December, after several premonitions, he was attacked in the afternoon with most violent convulsive dyspnoea, attended with emission of guttural sounds; the face and limbs became livid, and it seemed hardly possible that he could emerge from the seizure. However, after the administration of a few whiffs of chloroform the spasm gradually subsided, the surface regained its normal hue, and in less than an hour consciousness returned. The patient was very much exhausted, and seemed quite unable to expel the mucus collecting in the bronchial tubes and larynx; he lingered, however, through the night, apparently without much suffering, and expired quietly the next morning.

At the postmortem it was found that the skin was nowhere adherent to the surface of the tumour, which had acquired the size of an ordinary pumelo, extending from the first ring of the trachea down to a point on the sternum corresponding to the junction with it of the second costal cartilage, and, transversely, from the centre of the right clavicle to the corresponding point on the left side. It projected forward beyond the general contour of the chest wall about $1\frac{1}{2}$ inch, and arose almost entirely from the transverse portion of the arch of the aorta.

During the progress of the development of the aneurism it had caused the absorption of the sternal ends of both clavicles, and of the upper part of the sternum to the level of the second rib, with the sternal attachments of the first and second costal cartilages on both sides.

A firmly organised fibrinous clot, as large as a fair-sized orange, was found inside the sac, partly adherent to its walls. This, I have no doubt, was the result of treatment in hospital; but from the commencement it was evident to all the medical men who examined him that the proximity of the tumour to the heart, and the strong muscular development of the patient, only too clearly negatived any hope of success in treatment.

In the third case death was caused by capillary bronchitis, which terminated fatally after six weeks' duration.

The inflammation was very diffuse all over both sides, every tube apparently being loaded with muco-purulent secretion, large quantities of which were daily expectorated. For some weeks the patient was unable to lie down, and could sleep but little. Medicated steam spray for a time afforded relief, but eventually exhaustion set in, and the disease ended fatally about the middle of February.

DATE.	Barometer.	THERMOMETER.			WEATHER.				RIVER LEVEL.	
		Highest during Month.	Lowest during Month.	Diurnal Mean in Shade.	Fine Days.	Rain fall.	Cloudy or Overcast.	Snow fall.	Rise.	Fall.
1884.	<i>Inches.</i>	<i>° F.</i>	<i>° F.</i>	<i>° F.</i>					<i>Ft. in.</i>	<i>Ft. in.</i>
September {	Max.....	30.30	92	67	77	23	3	4	...	1 9
	Min.....	30.00								
	Mean.....	30.16								
	Range.....	0.30								
October ... {	Max.....	30.55	78	49	63	10	11	10	...	8 9
	Min.....	30.15								
	Mean.....	30.34								
	Range.....	0.40								
November {	Max.....	30.65	66	37	50	14	7	9	...	1 0
	Min.....	30.15								
	Mean.....	30.42								
	Range.....	0.50								
December {	Max.....	30.75	54	28	43	22	...	8	1	...
	Min.....	30.20								
	Mean.....	30.49								19 4
	Range.....	0.55								

During the months of December 1884 and January and February 1885 the river was exceptionally low, and an enormous sandbank formed in front of the Bund, over a mile in length and half a mile in width. The "oldest native inhabitant" could not remember anything like it, and it looked as if the river's bed was going to be permanently altered; but a change of level of some 40 odd feet works wonders, and now (July) the stream is again rushing with irresistible force on a level with the Bund, and all trace of the sandbank has gone for ever.

The following table, showing the rise and fall of the river for the past eight years, gives a difference of level of about 40 feet:—

TABLE showing the DATES on which the RIVER was at its HIGHEST or LOWEST, with the Amount of RISE and FALL.

DATE OF LOW WATER.	REGISTERED BY GAUGE.	FALL.	DATE OF HIGH WATER.	REGISTERED BY GAUGE.	RISE.
	<i>Ft. in.</i>	<i>Ft. in.</i>		<i>Ft. in.</i>	<i>Ft. in.</i>
27th January 1877	0 3	43 7	1st September 1876.....	43 10	...
30th ,, 1878	1 6	31 8	30th ,, 1877.....	33 2	32 11
2nd March 1879	2 9	45 11	8th August 1878.....	48 8	47 2
10th January 1880	0 10	37 9	24th July 1879.....	41 4	38 7
25th February 1881.....	2 11*	42 6	30th ,, 1880.....	39 7	38 9
29th January 1882	5 2	32 5	10th ,, 1881.....	37 7	40 6
17th February 1883.....	3 2	43 2	29th ,, 1882.....	46 4	41 2
26th January 1884	8 1	37 2	23rd ,, 1883.....	45 3	42 1
7th ,, 1885	0 1	37 1	28th ,, 1884.....	37 2	29 1

* Below zero.

A high rate of mortality from fever and other kindred diseases, especially among foreign residents, would naturally be expected when, as periodically occurs during the prevalence of tropical heat, the Settlement, and the country as far as the eye can reach, are under water; when frogs, like an Egyptian plague, make night hideous; and when the water supply is tainted by the dead bodies of innumerable drowned toads. But it is not so, probably because of the shortness of our hot weather and the bracing influence of our autumn, spring and winter. It is to be regretted that vital statistics cannot be obtained of the native population. Among foreigners I have noticed the climatic influence on all those who once get below par. Patients can be brought through their various sicknesses up to convalescence, but there they stay, and generally nothing less than a change, however short, will restore them to perfect health and strength. If they remain here they are generally soon on the sick list again. Cases also occur where the patient complains only of a general feeling of malaise, without any appreciable symptom. Otherwise, persons who come here in good health and take care of themselves will live as long and as well here as elsewhere. During some of our autumn months Hankow enjoys weather not to be surpassed, and there is every facility for healthy out-door exercise of various kinds for more than two-thirds of the year. I, however, am one of those who believe the Settlement could be made much more healthy than it is. I have in a former Report* spoken of the drainage system and its worse than inefficacy. Recently an attempt has been made at great cost to remedy it. The old main drain was taken up and a new one of drain-pipe laid in its place, but the difficulty of obtaining a proper fall still remaining, renders it only less objectionable than the old one. Those in charge of its construction were unable to overcome the difficulty of caulking the joints of the pipes on the under surface, but solved it by laying masses of cement, and then forcing new joints in, thus tending to produce a series of ridges on what should have been a smooth surface. It was not until after it was completed with proper charcoal ventilators that the idea of making connexions to allow of surface water and secondary house drains entering suggested itself. These connexions were made in such a manner as at once did away with all the good of the ventilators. Since the new drain has been in use I have had a greater number of fever cases, due, I believe, to the fact that all the money spent has only had the effect of permitting freer communication with under ground. The old drain had the merit of being nearly silted up, and was practically unused. I can only repeat my former statement, that under existing physical conditions any system of underground drainage here must be a mistake. Sanitation is a difficult and at the same time a dangerous science. When man once steps in and attempts to do himself what the oxidising power of the sun, combined with other natural processes, has hitherto done for him, he must take great care not to be merely mischievous. A faulty drainage system is much more deadly than a total absence of drainage. This place is specially well adapted for surface drainage, and a little supervision (guided by the sense of smell) would insure back premises being kept in a clean and innocuous condition.

The water supply also cannot fail to have a prejudicial effect on the general tone of health. The main current of the river does not run alongside the Bund, the Han water forcing it to set over towards the opposite shore. There is, therefore, always more or less of a back current along the whole length of the Bund, and it is out of this water that buckets are filled.

* *Customs Medical Reports*, xxi, 45.

The river contains at most seasons such a vast body of water that the dilution of organic matter would render it more or less safe, but I cannot say the same for water taken out of such a trap for floating impurities as the current which sets backward below the mouth of the Han and the populous cities of Hankow and Hanyang. The roughest tests show what the water is. I have no hesitation in pronouncing it unfit for drinking purposes—an opinion practically adopted by my *clientèle*.

Of recent years several hide-curing establishments have been opened, some inside the Concession, and others just outside its limits. I understand it is a question whether they come under the law affecting nuisances. I think there can be but one opinion on the subject. As an olfactory nuisance I would give them a front rank; and we know the risk of anthrax which attends manipulation of the hides of infected animals.* Various poisonous drugs, more or less volatile, are used, I believe, in the process of preparing the hides and to kill the worms attacking them. The Council are fighting hard to keep these establishments outside the Settlement.

The health of the foreign community during the period under review has been fairly good. One death from heart disease took place in my practice. We have had no epidemics, except a mild one of varicella—13 children and 2 adults. Only three or four of the cases were severe enough to need any treatment. There were a good many cases of remittent and intermittent fevers, of which one or two were severe; and 2 cases of typhoid fever, neither of which, however, was contracted at this port.

In the treatment of remittent fever I can endorse all that Dr. HENDERSON of Chefoo says† of the advantage of using a combination of quinine and salicylate of soda. I, however, prefer to use salicine, having occasionally observed marked symptoms of gastric irritation with the use of the former, and less frequently with the latter. With this combination I have never failed to influence the temperature even of typhoid fever. I find in practice a great many cases that begin in the same way, *i.e.*, with a similar temperature curve, and I have now come to making it a rule to begin at once with the powders of quinine and salicin, combined, of course, with the extra treatment each individual case demands. The greater number of cases progress steadily, and terminate favourably in four, seven, or eight days. Here and there a case stands out and shows marked typhoid characters. It is difficult to form a theory as to the cause of the increased antipyretic action of the combined drugs; either alone, even when pushed to its limit, being often useless to affect the temperature, whereas small doses of both do so with great readiness. We know that substances in the nascent state are often more powerful; and it may be the explanation that a mixed sulphate is formed. I give 5 grains of each in a Maw's wafer every hour, according to the requirements of the case. The effect on the stomach must be watched.

Typhoid in Hankow differs from the disease as we see it at home. We get the same marked depression and typhoid appearance of the patient, and often the same duration of the febrile stage. The character of the motions is the same; also pulse rate, ranging between 60 and 88. But instead of diarrhoea we have more frequently constipation; the characteristic temperature curve in the initial stages is absent; and I have never been able to satisfy myself that I have seen a true typhoid spot. Still, there is no doubt that the disease is typhoid, and

* I had a bad case of anthrax a short time ago from one of these establishments.

† Customs *Medical Reports*, xxviii, 1.

would be found from statistics much more fatal than in Europe, partly from climatic and other influences that render a grave illness a much more trying ordeal here, and partly from the choice it makes of its victims. With very few exceptions, my typhoid patients have been those least calculated to resist. A case occurs here and a case there without any chance of our being able to trace the source of infection; others, exposed apparently to the self-same influences, remaining free, just as if the poison were only able to obtain a hold on a system of lowered tone. It certainly does not behave as it does at home, breaking out from a discoverable source and infecting weak and strong, young and old alike. Such, at least, has been my experience of it during my six years' residence here.

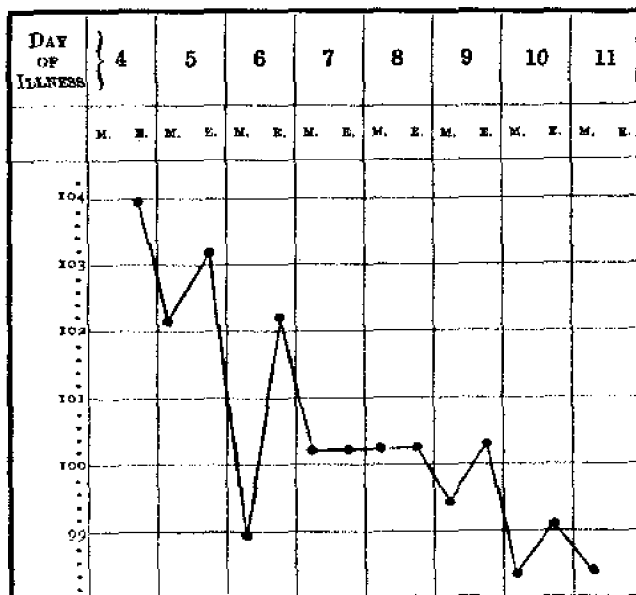
Cholera.—There was no case among foreigners, and only a few Chinese patients came under observation. We have no means of arriving at true statistics of this disease in China, especially in the absence of an epidemic. The Chinese, in acute diseases, do not as a rule come to hospital; death, recovery or the chronic condition being reached before they have exhausted the resources of Chinese skill. I see enough patients, however, to convince me of the great value of hypodermic injections of chloral.

Small-pox.—Three foreign patients; 1 death.

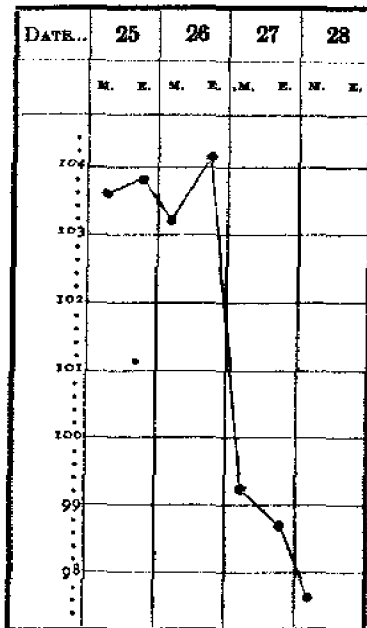
In the fatal case death was due to exhaustion in the period of convalescence. It was the most severe case of confluent I ever saw.

The other two cases were mild examples of the confluent and discrete forms respectively, and were only remarkable for the delay in the appearance of the typical rash.

The first, a sailor from H.B.M.S. *Fly*, was admitted to hospital on the 4th day of the fever. Temperature, 104°. He complained of slight headache and diarrhoea; no backache. All body covered with a rash, like a bad case of prickly heat or sudamina. On the 6th day his temperature fell in the morning to 99°, but in the afternoon again stood at 102°.2. It was not till the 7th day that the true nature of the spots could be made out. Afterwards the disease ran its usual course, the patient being in a remarkable manner free from all discomfort, although the disease proved confluent.



The other case occurred in March, just at the end of the mild epidemic of varicella.



There was a history of exposure to cold after becoming violently heated with exercise. I saw him on the 25th. Temperature, $103^{\circ}.6$; feeling cold and shivering. Pulse, 88. Hard, dry cough; nasal catarrh. Pains in all body, but especially in chest. Foul tongue. Hot, dry skin. Suppression of urine, and constipation. No backache. Ordered a purgative and a diaphoretic mixture.

26th.—Feels better. Tongue cleaning. Temperature, $104^{\circ}.2$.

27th.—Temperature, $99^{\circ}.2$; a rash out on face and hands, character varioloid. Evening temperature, $98^{\circ}.6$; more rash coming out on body.

28th.—Temperature, subnormal. Rash out on legs, and fading away on face and hands; patient feeling quite well. I was confined to bed during the next three days; but the report was that he was feeling quite well, till I was called to him on the 1st April, the 8th day of the disease, to find that, after a bad night, he was covered with a crop of well-developed pustules, and had all the other symptoms of the disease strongly marked. He also went through the usual course, and made a good recovery.

Both cases were extremely difficult to diagnose in their initial stages, and are interesting only on that account. The last case is difficult to explain. It was as if the same patient had gone through an attack of varicella, followed by a severe attack of variola.

Of other diseases not specially dependent on climate there has been no undue proportion; and while the population has been increased, I have the satisfaction of having only 1 death to report, and that not from a preventible cause.

I am glad to be able to report a growing feeling of confidence among the Chinese towards our hospitals, both of which are in full work. My out-door clinic averages 100 daily, of whom nearly two-thirds are old cases, a most gratifying proportion. I still hold the views with which I started—of keeping the wards for surgical and acute medical cases.

During the year ending 30th September 1884 I had over 300 major operations, with 4 deaths.

The operations required are the usual hospital ones, *i.e.*, amputations; excision of tumours; operations for removal of bones; operations on eye, mouth, ear, etc.; one lithotomy; one perineal section in a case of impermeable stricture, etc.

A great many cases of leprosy came under observation. Syphilis is rampant in all its forms. I have done a good deal with the sharp spoon in cases of lupus and indolent or strumous ulcerations, with very good results.

A large proportion of the out-door clinic suffer from disorders of the digestive apparatus; and I find santonine a most useful drug whatever may be the symptom complained of, if the tongue is clean. It should be given in oil. Of the presence of lumbrici there is no one

diagnostic symptom. You may meet with anything from dysentery to constipation, from convulsions to paralysis; but in all cases the tongue is clean. In true dysentery ipecacuanha works like a charm; I have not yet seen the case that required more than two doses. I believe a good deal depends on the method of administration.

The patient must not touch fluid for, say, two hours before taking the dose; then he is given 60 minims of tincture of opium, followed in 20 minutes by 30 grains of ipecacuanha, given in a Maw's wafer; and then he must not take any fluid for four hours after, except a little ice to suck. Within 12 hours he generally has his first motion, a large, bulky, light yellow one.

I have used the same treatment with success in cases of obstinate diarrhoea and cases coming under the designation of sprue. Diet, nothing but fresh milk.

NOTES ON THE SO-CALLED "BLACK LIME,"
THE 青灰 OR 黑灰 OF CHINA.

By A. P. PEEK, M.D., Tientsin.

THIS substance is said by Dr. WILLIAMS to be "a kind of bitumen," and as it has not been mentioned by any other writer with whose pages I am familiar, possibly the correction of this mistake and the noting of two uses to which it is put by the Chinese may prove of interest.

A suspicion of its bituminous origin might arise from the facts that at some places there are found traces of petroleum in connexion with the coal measures near which it is found, and that water in which it is macerated sometimes shows an iridescent film upon its surface. The substance in question is, however, *amorphous graphite*; and although it is mined in localities near the coal beds, the Chinese themselves insist that it has no connexion with them. The provinces of Chihli and Shantung are mainly supplied from mines in the foot-hills of the range bounding the great plain on the north-west, and much of this material is shipped from Liu-li-ho, whence large quantities of lime and coal are also forwarded, this city, situated at the head of one of the affluents of the Peiho, being the distributing point for a large mountain region. Near Liu-li-ho surface indications of petroleum seem to abound.

One of the uses before mentioned is its mixture with lime, to make a very hard and durable plaster, used in situations that are exposed to the weather. Because of this association, the Chinese call this "lime" like the other, although, as they say, it has not the fiery principle of the white lime.

A peculiarity of this graphite is its avidity for water, not from chemical affinity, as with lime, but from its great absorbent qualities. The crude graphite, in lumps as it comes from the mines, when exposed to contact with water, at once becomes permeated by it, and falls into powder. In this state the particles slide upon each other with the greatest ease, giving that lubricating quality which is characteristic of graphite. When mixed with freshly slaked lime, graphite in this state can be very thoroughly incorporated with it, each one of the finely divided particles becoming imbedded in a matrix of lime, and by laborious working and pressure, as the mortar sets the mass can be so consolidated as to make, when hardened, one of the best and finest grained mortars known, specimens of which can be seen in the so-called "chuanam" roofs.

The superiority of this mortar is due solely to the physical character of the little knife-edged, microscopic fragments of carbon; and yet, strange to say, the use of silicious sand in mortar does not seem to have commended itself to native builders. I have never been able to get one who was not familiar with foreign ways of building to acknowledge its utility. True, it is somewhat difficult to obtain on this great alluvial plain; still, where it can be had, so far as I know, loam is used in preference.

To pass to the second economic use of graphite; this is the curious one of dyeing cloth. The cotton garments universally worn by the middle classes are coloured with this substance. The cloth is soaked in a hot, aqueous mixture of graphite, in which there is a little glue; it is then placed on a stone and mauled with wooden beaters; again immersed and again beaten, the process being repeated many times with each piece, until the cloth assumes a deep and uniform tint attained by thus mechanically forcing the fine particles of carbon more and more deeply into the fibre of the cloth.

I have rarely seen a more beautiful object than fibres scraped from the cloth, loaded with brilliant, razor-like fragments of carbon, like diamond dust, especially when viewed in glycerine, under a $\frac{1}{2}$ immersion lens. It is difficult to believe that such beautiful transparent objects make up in mass the dull opaque plumbago.

This process of dyeing, if we may call it so, I believe to be unique in the art as practised at the present day. The colour is, of course, indestructible by the sun or chemical action, and can only be discharged by thorough and repeated washings. Hence it makes a very satisfactory and permanent colour for Chinese garments, and approves itself to the utilitarian native mind, as witness its universal use.

Graphite is abundant, and sells in the market here for 5 cash a catty; yet these are all the industrial uses of it, so far as I know.

Lead pencils, crucibles, stove blacking and lubricating are not yet achieved by means of it.

Oddly enough, the Chinese have not thought of using it in medicine. Yet the great hygroscopic qualities of the fine, soft, velvety powder, which may easily be obtained by levigation, indicate a direction in which it may advantageously be employed.

In such affections as require dry dressings, *e.g.*, moist eczemas and purulent otitis, it could not fail to be of service. As a styptic it is of considerable value. I have found that a combination of 3 parts of graphite, 2 parts of resin, and 1 part of acacia, by weight, carefully triturated, possesses very marked hæmostatic properties.

ON THE MOVEMENT CURE IN CHINA.

By D. J. MACGOWAN, M.D.

THE Swedish movement cure has already an extensive literature of its own; but as the Chinese have been indicated as originating an analogous system of therapeutics, a notice of their writings on that subject seems called for, which, if in itself valueless, will be accepted as a contribution to the history of the healing art in China; and the attempt, moreover, is not inopportune, inasmuch as renewed attention has been called to the matter by P'AN WEI, the present Governor of Hupeh, whose name since 1858 has been included in the long list of authors on this branch of Taoistic medicine. The celebrity that His Excellency attained by the production referred to caused him to be summoned to make a long journey to Peking, on the occasion of the fatal illness of the late Empress. In his brochure entitled *Important Life-maintaining Methods* (衛生要術) he assigns to the art high antiquity, beginning with eocene medicine, when in the neolithic age stone surgical instruments were used (transposing, he makes the bronze period earliest), leaving the inference that one part of the subject—accumulation of air in the system by breath-swallowing—is not less ancient. It is traced to CH'IH SUNG-TZŪ (赤松子), who is also styled KUANG CH'ENG-TZŪ (廣成子), a legendary personage (whom early Taoists regard as their most ancient celebrity) who had attained to the age of 12 centuries when the Yellow Emperor (B.C. 2697-2598) sought instruction from him in the art of prolonging life. Air-swallowing (essential to the art) is not named in the legend, but implied, the end being (anciently) as near approach to unconsciousness as possible. The philosopher LAO-TZŪ (latter half of the 6th century B.C.), who is next named, merely enjoins cherishing the animal spirits in order to promote longevity, which being duly observed, disease will be averted, and death will merely be the result of natural decay.

LIEN-TZŪ, the immediate disciple of LAO-TZŪ, inquired of CH'IH SUNG-TZŪ (KUANG CH'ENG-TZŪ), the custodian of the writings of his master, how the power of traversing the air, of living unscathed in fire, and the like, might be acquired, and was told that it was neither by wisdom nor skill, but through support by the vital aura, by which he is understood to mean breath-swallowing, accumulations of breath in the system rendering the frame invulnerable to disease and defiant of death; and to effect that, a mild form of bodily exercise was added, which, with breath-gulping, now constitute the Chinese movement cure, albeit friction, of which it constitutes a portion, for the removal of pain was coeval with pain itself. It is not unlikely that the notion prevailed at an earlier period, but this is its earliest record.

About two centuries later (the middle of the 4th century B.C.) we find CHUANG-TZŪ naming disparagingly a school of philosophers who, by swallowing air and by muscular movements, aimed to avert death. They flourished about the time when search began to be made for an elixir vitæ,* which, subsequently, in connexion with movement hygiene, became a characteristic feature of Taoist medicine. Up to this period, belief in the dogma of metempsychosis induced the followers of LAO-TZŪ to regard all attempts at averting death as unbefitting philosophers;† but subsequently, as faith in elixirs waned, *kang-fu*, as the exercise is called, found a place in the medical literature of that school. In vain do we look for

* The earliest personages who are named as infatuated by that illusion were the Kings of Ch'u and Yen, B.C. 314-254.

† Reference to the transmigration of souls is found in the [spurious] writings of LIEN-TZŪ. The tenet may have had a Hindu-Brahminical origin, or most probably it was excoagitated by Chinese metaphysicians.

information on the subject in works that are strictly professional. Reference, however, is made to air-swallowing in the earliest extant Chinese medical treatise;* that practice and the control of the passions are named as conducive to longevity, but regular practitioners have always regarded the exercises as inert charlatanism.

The Prince of Huainan (suicide B.C. 122) refers contemptuously in his philosophical essays to these bodily exercises as the antics of animals.†

Belief in the possibility of attaining immortality by the use of drugs, which became rife early in the 4th century B.C., served to divert attention from the practice of *kang-fu* (罡符) to the use of elixirs, and hence writers of the Han and subsequent periods attach little importance to muscular exercise; it was revived by the Buddhist school of medicine, as recently perhaps as the 13th century. Its employment as now practised by Buddhists, lay and clerical, also its revival by Taoists, originated, according to the *Treatise on Muscular Exercises*, with TAMO, the 28th Buddhist patriarch (BODHIDHARMA), who came from India to China (*via* the Straits), and after travelling in many provinces, established himself (A.D. 477) at Little Forest Monastery, Honan-fu, where he sat immovably, gazing at a blank wall, when his spirit returned to India.‡

Several years after his demise (it is pretended) there were discovered in the ruins of his tomb two works written in Sanskrit, one entitled *Washing the Marrow* (not extant), and the *Essay on Muscular Exercises*, which was conveyed to Omei Mountain Monastery for translation. There, on the borders of Thibet, Chinese, Hindu and Thibetan monks found a seclusion which favoured austerity, renunciation of the world, and devout contemplation; and there this volume was translated into Chinese. It was subsequently conveyed to a maritime region, and came into the possession of a Korean prince, from whom it was obtained by the editor, LI YAO-SHIEH (李百藥藥師), an author and a statesman of note, who aided in the establishment of the T'ang dynasty (A.D. 618). Besides a preface from that writer, the work contains one from a commander of the Sung period, who served under the famed YO FEI.

* Entitled 黃帝內經素問 (*Huang-Ti Nei Ching Su Wen*), attributed, as its name implies, to the stylus of the Yellow Emperor, who reigned some 40 centuries ago, but which can claim no higher antiquity than the period of the Fighting States (*vide* Han Catalogue, about 30 B.C.), possibly as remote as the middle of the 4th century B.C. No less than 15 works are ascribed to that semi-mythic ruler, only one other being now extant, the *Pénts'ao*, or *Herbal*. A like mortality befell works of that period generally. Of 1,250 named in the Han Catalogue, only 52 survive. This forerunner of Chinese medical literature is in dialogue form, the interlocutors being the Yellow Emperor and his minister CA'I PO, who imparts to his Sovereign the physiological and pathological opinions of the day, which were the outcome of countless ages of observations, oral and written. It commences with a subject not entirely foreign to the subject in hand, the preservation of health.

"I am told," said the Emperor, "that in high antiquity men were vigorous when 100 years old; how is it that now men fail at half that age? Is it due to change of seasons, or to man's own deterioration?" CA'I PO replied that it was the result of man's degeneracy: the ancients observed the rules of hygiene, while now men are addicted to intemperance and venery; the ancients cultivated quiescence and lived free of turmoil. "Is it because of Heaven's decrees that aged men cease to procreate, or to a natural exhaustion of power?" The minister replied at some length, saying that virility might be retained until a man attained a century, instead of failing now at 64. From this it may be inferred that during more than a score of centuries Chinamen have undergone no marked physical change, and I may add, history seems to indicate that, intellectually and morally, their calibre has been about the same in all ages.

† 淮南子, cap. vii. One of the standard works of the Taoist canon. The unfortunate and learned writer laboured to transmute metals and discover elixirs, but nothing of those vagaries appears in his writings.

‡ [This is really mesmerism, and has nothing to do with the movement cure properly so called. Compare GILES, *Historic China, and other Sketches*, page 314.]

§ The *Treatise on Muscular Exercises* (易筋經) appears to be in error as regards the date of the patriarch's arrival in Honan. WILLIAMS' *Dictionary* gives about A.D. 383 as the time, styling him DHARMA-NANDI. A Japanese legend ascribes to him the introduction of tea into that country. *Ta-mo* (達磨), the foreign sound of his name, and the foreign habiliments of his image in temples, caused him to be regarded at one time as St. THOMAS the Apostle to the Indies.

This circumstantial history of the work, which forms the basis of my account of the Chinese movement cure, is not an exceptional bibliographical curiosity, but a fabrication that has many parallels. It is probable that the work dates from about the 12th century. Plausibility was imparted to the fabrication by the fact that Little Forest Monastery became notorious in the 8th century for its athletic, valorous and militant fraternity, who were the terror of brigands and insurgents through a period of about 700 years. That unique development of muscular Buddhism was due, it was alleged, to the instructions of TAMO contained in this work; wholly ignoring the statement that during his nine years' residence in that monastery he sat all the time gazing at a blank wall. The activity of those manly monks was so dissonant from their tenets that in the course of time (early Ming period) they naturally degenerated into the drowsiness that is characteristic of their class.

Governor P'AN's book consists of compilations from the work of HSÜ MING-FÉNG (徐鳴峰), from the *Twelve Elegant Manipulations* (十二段錦總訣), from the *Eight Elegant Supplementary Illustrations* (八段錦) and from the *Treatise on Muscular Exercises* (易筋經圖說)* with annotations of his own. Of these works, the last is best known. It is TAMO's (so called), and is the standard book. Another pamphlet may be here named, *Essay on Muscular Exercises*; its author (or, rather, editor) affirms that to his knowledge the system was efficacious to the extent of restoring vigour to an octogenarian. Swallowing air was regarded as one of the main points in the movement cure. Life depends, it is taught, on the existence of a primary aura; so long as a particle of it is retained in the system, death cannot occur. A deficient supply is the cause of disease; and when it duly permeates the system, every ailment is averted. The object of the postures, motions and frictions is to promote the due circulation of that vital air. LIEH TZŪ represents CH'IH SUNG-TZŪ as illustrating the state of a system that is thoroughly saturated with air, by that of a drunken man who falls from a cart without sustaining injury, because of intoxication; so a man permeated with the vital aura is invulnerable.† Disease appears only when vitiated air can find entrance, when the circulation of that air is defective. The air starts in its circulatory movement from the "little heart," which is situated in the pubic region; air vessels convey it thence upward anteriorly to the forehead, where these vessels inosculate or become continuous with a similar system that returns the air posteriorly to the "little heart." Without fire, this aura is the source of animal heat; without water, it lubricates the viscera. "Although," says the governor, "fate determines longevity as it does birth," disease may be averted by employing the movement cure, which is preferable to delaying until disease sets in, when the art is comparatively useless.

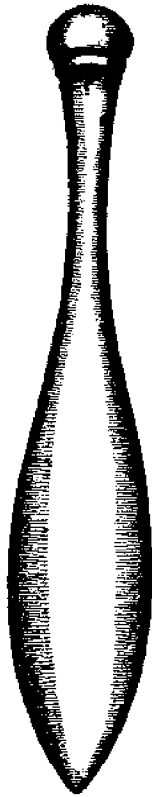
Before proceeding to describe his drawings, TAMO is made to furnish prolegomenary remarks (not given by the governor), which are here epitomised; they commence with air-swallowing and frictions, followed by muscular exercises.

Divide the period of air-swallowing and friction exercises into three parts of 100 days each. On the 1st day of the moon, about 4 or 5 A.M., inhale the sun's air seven times; should the weather be rainy, the operation may be delayed a day or two, but if later than the 3rd of the moon it will be useless. At the full of the moon, or not less than three days later, take seven inhalations of moon air at about 8 P.M., care being taken always to prevent the inhaled air from escaping by the nostrils. At the same time employ frictions, which are to be performed by two youths, each on alternate days. If the disorder is due to defect of the male or positive principle, the operator to be a girl; if the female or negative principle is at fault, employ a boy. They are to rub the patient's abdomen with the right hand, and from right to left, at first lightly, gradually increasing the pressure. This is to be done for an hour three times daily; after each operation the patient may take a nap and then resume his occupation. By the close of the first month a certain amount of air will be accumulated, and the services of the young

* TAMO, abridged.

† 列子, cap. ii.

person may be dispensed with, when a form of shampooing is to be employed by the patient; thumping his ribs with a bag filled with water-worn pebbles, weighing a catty, three times daily, when that portion of the body will become rotund and hard, while the abdomen falls in. During the third month a pestle about 6 inches long, or a round bat somewhat longer, is to be employed for pounding the abdomen three times a day; they are to be made of hardwood, as laka, pear or other hardwood. The following is their form:—



MASSAGE BAT.



MASSAGE PESTLE.

Under this pounding process the abdomen becomes plump and hard; meanwhile friction and pounding the ribs to be continued. During the fourth month the bat and pestle are to be alternately used, that is, pounding and beating, with friction, three times a day. This completes the first period of 100 days, when the body becomes well filled with air, and the muscles hard and firm.

From the fifth month of the exercises the bag of pebbles is to be used continually to the close of the eighth month, which closes the second 100 days period. During the third period the back is to be pounded in like manner. During the whole 300 days continence is to be maintained, except once between the 100-day periods; and ever afterwards, except once in 50 days.

On completing these exercises, commence muscular movements, of which there are 12 kinds, namely:—

Stand erect and firmly, retain the breath, bring the flexed hands together on the chest, knuckles meeting, keeping the mind at absolute rest. (Fig. I.)

Next, stand on the toes and extend the arms laterally, with eyes fixed, mouth closed, and mind perfectly quiescent. (Fig. II.)

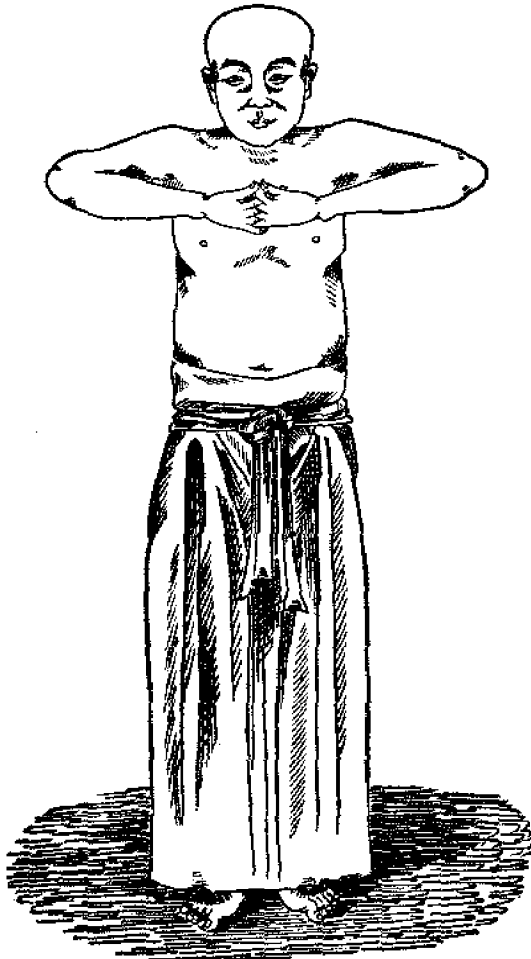


FIG. I.



FIG. II.

Next, maintaining the tiptoe posture, raise the arms above the head and bring the hands together with palms turned upward, joints closed, tongue pressing roof of mouth; clench the fists, and bring the arms firmly and slowly down. (Fig. III.)

Next, raise one arm above the head, palm hollowed, eyes directed towards it, inhaling through nostrils, and forcibly and slowly bring down the arms. Repeat with the other arm. (Fig. IV.)

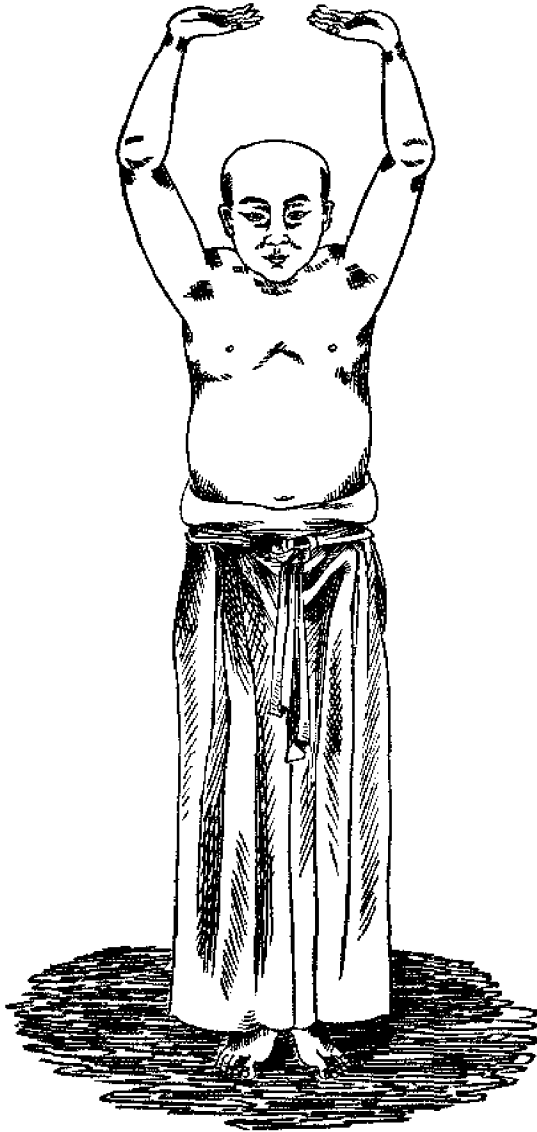


FIG. III.

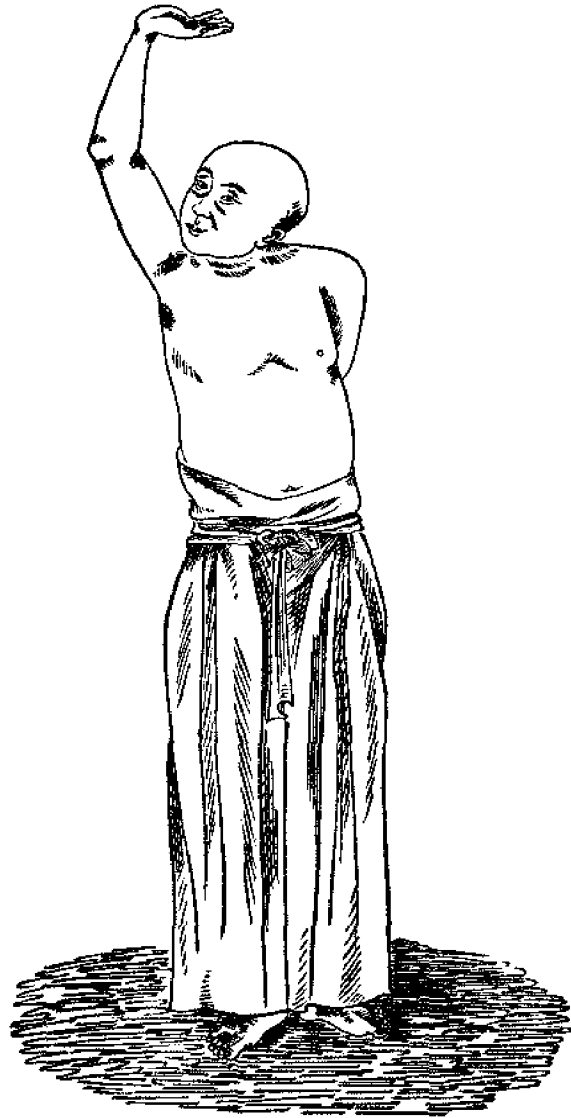


FIG. IV.

Next, as if pulling the tails of nine bulls, stand on one foot bent and extended forward, the other extended backward; cause the air of the pubic region to move forcibly, thrusting one arm forward, the other backward, eyes fixed on the clenched fist. Repeat, reversing the legs. (Fig. V.)

Next, extend the arms forward, as if pushing out and drawing in, seven times. (Fig. VI.)



FIG. V.

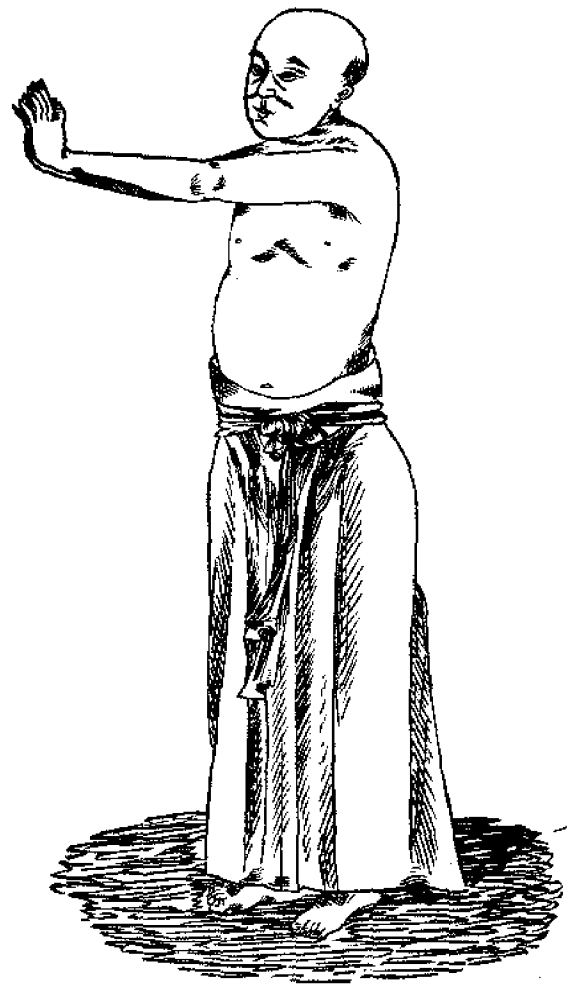


FIG. VI.

Next, head inclined, with a hand stretched behind the neck. Repeat with other hand. Maintain erect posture, with gentle breathing. (Fig. VII.)

Next, sit with legs wide apart, pressing the hands on the floor, and forcibly raise them, eyes fixed, mouth closed; rise, and bring the feet together. (Fig. VIII.)



FIG. VII.

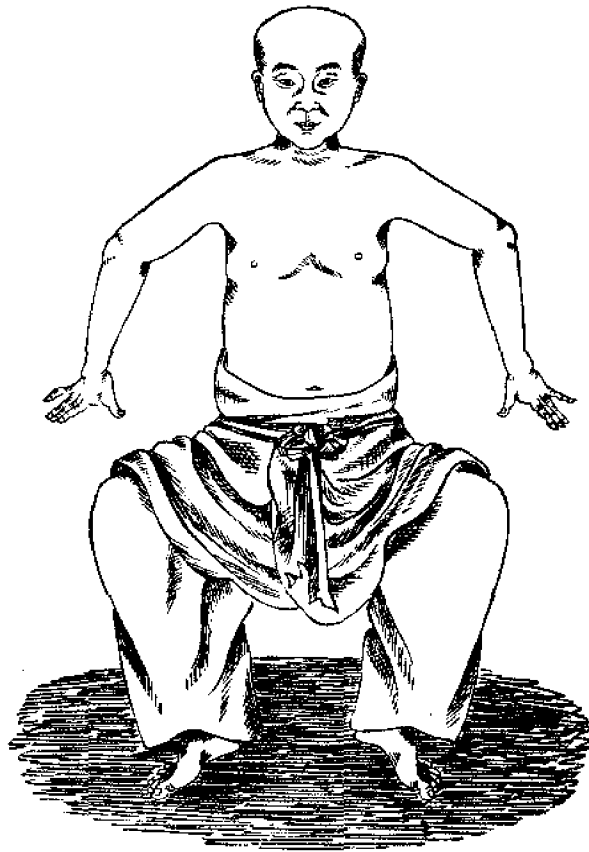


FIG. VIII.

Next, turn the arms alternately across the chest, fixing eyes on the hands, the mind meantime settled. (Fig. IX.)

Next, assume the posture of the "crouching tiger," one knee bent, the other stretched backward, head turned upward, palms resting on the ground. (Fig. X.)

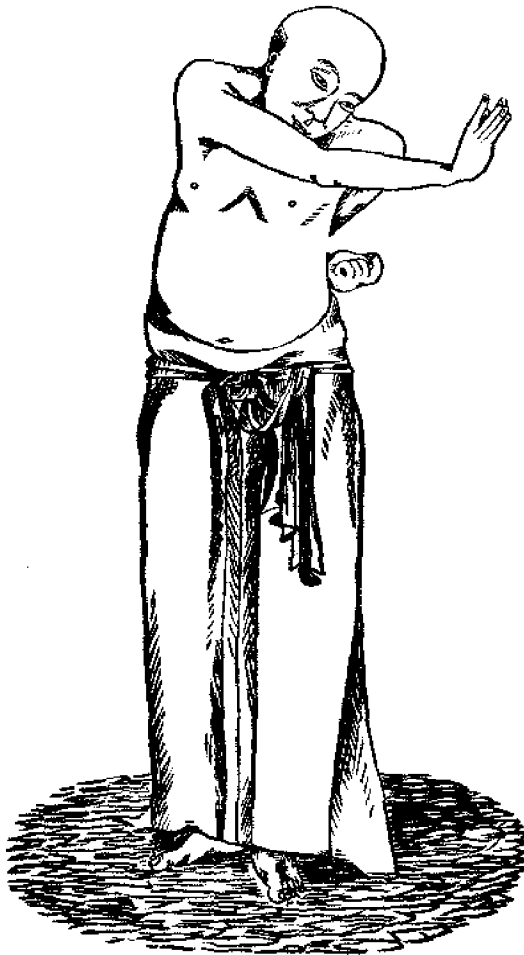


FIG. IX.

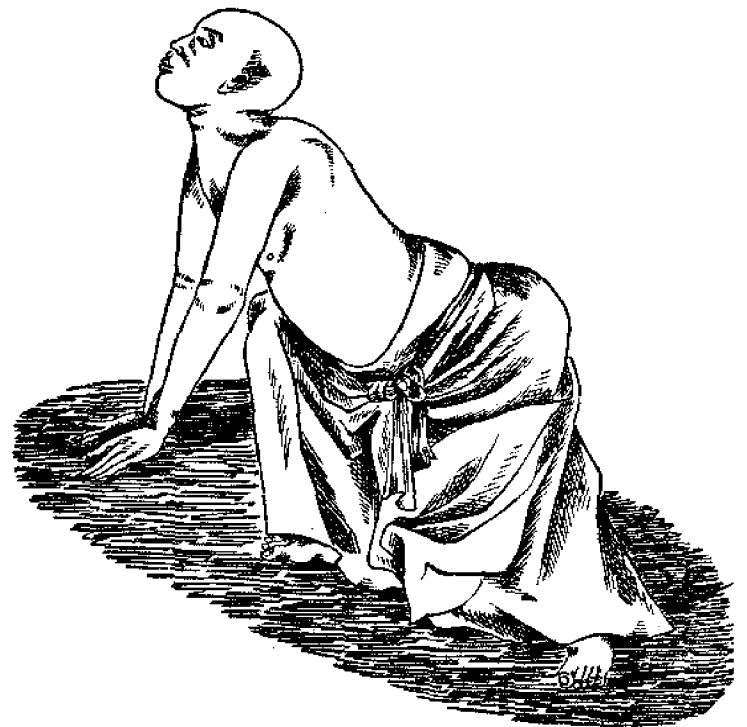


FIG. X.

Next, bend forward, placing the hands at the back of the head, so as to cover the ears; close the teeth, press roof of mouth with the tongue. (Fig. XI.)

And finally, keeping legs erect, bend forward, with fixed eyes, and head upturned, the hands clasped on the ground, rise; stamp 21 times, and stretch the arms alternately seven times; then sit cross-legged, each leg in turn, with closed eyes. (Fig. XII.)

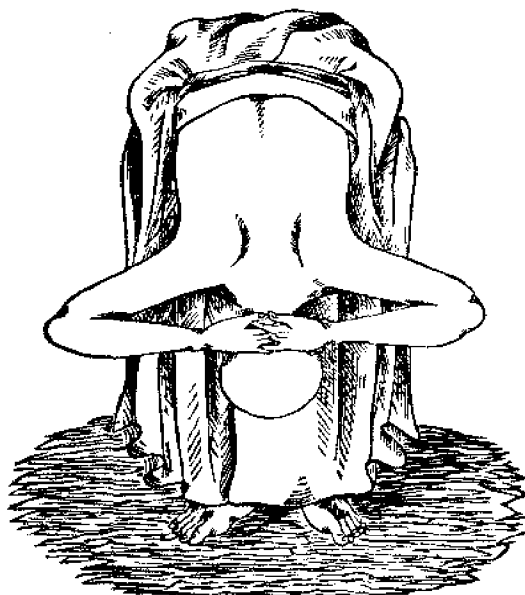


FIG. XI.

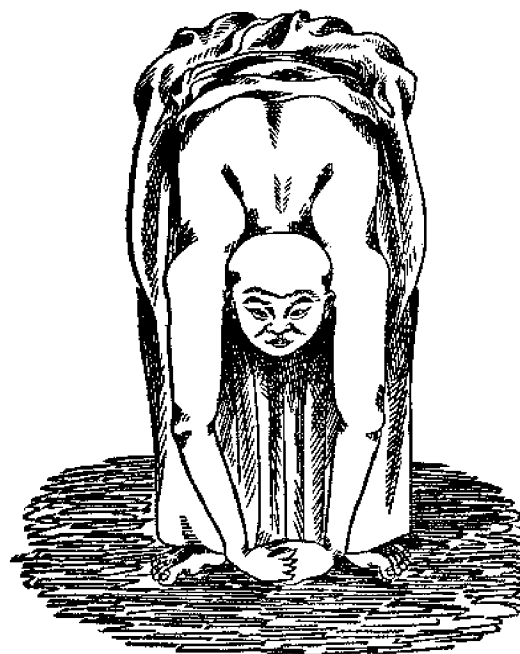


FIG. XII.

Perform these operations three times daily for an indefinite period. Attend also to the following supplementary exercises. Let a man seize the thumb and fingers of one hand and stretch them apart, while another person performs the same operation on the other hand. Strike and kick a suspended bag of sand weighing 50 or 60 catties, the weight to be gradually increased. Drop a stone weighing a pound or two, and seize it with the fingers before it touches the ground, several times a day; after a while increase the weight of the stone and frequency of the exercise. Sit on the ground and raise yourself by pressing the earth with the hands. To render the fingers supple, accustom yourself when at leisure to picking up beans.* Exercise yourself in the open or in woods; eschew pugilism, archery and all movements which tend to exhaust your store of air.

Governor P'AN favours eclecticism, allowing a choice to be made from his selections from the various authorities cited; and to the foregoing, from TAMO, I give the following condensed supplement.

In gulping air, face the east and go through the following 12 operations, each 49 times. These are motions of the body and limbs, with slight modifications of those given above; all illustrated by drawings. Eight diagrams are given of motions that are to be followed in treatment of disease, as constriction of the chest; in dyspepsia, debility, and affections not recognisable from the descriptions.

In going through the exercises there is to be no thinking; the mind must be absolutely quiescent.

* It is a common practice for people whose fingers are growing stiff to promote suppleness by rolling a small ball between the palms.

Squat with sole of a foot brought against the scrotum; elevate the knees; rise slowly and gradually; relax the rigidity of the arms. When seated sit erect. Fillip the back of the head with both hands by pressing them against the occiput, the index finger being free to slip with force from the ring finger, causing a "heavenly-drum noise;" clasp the neck with both hands, and turn the head 36 times; rub the hands until they become warm, then rub the face. Repeat the operation after moistening the hands with saliva. Ear rubbing; eyes to be kept closed on awaking until after the lids have been rubbed; press the temples with index fingers 27 times; rub the forehead 27 times, also the bridge of the nose and the *alæ*. Get on all fours, with head turned back, five times. Mouth to be closed when performing the exercises; when it is parched and bitter, open it and gasp several times, and fillip the occiput nine times, and wag the tongue till saliva is secreted, when it will become cool. Before going to sleep sniff four times; expel air from the mouth the first thing on rising, and inhale by the nostrils. Sleep with closed mouth (enjoined on children, who are told that otherwise they will not escape rats' droppings; hence many acquire the habit of sleeping with closed mouths, as do American Indians, etc.). Frequently press the tongue against roof of mouth, to promote secretion of saliva, which swallow. Shut the teeth firmly 36 times; in urinating keep them closed. Count the number of inspirations 36 times. Use the hands as if pulling a bow of 50 catties power, 24 times. Beat the shoulders with clenched fists seven times. Squatting, rub the soles of the feet until they become warm; sit, kicking out one foot after another. Swing the arm in its socket 24 times. Get again on all fours 13 times, raising and depressing the back. Walk 100 steps, rubbing the abdomen with both hands, concentrating the mind on the "little stomach" in the pubic quarter. Hold the scrotum in one hand, and the belly with the other; change hands 81 times. Rub the renal region. The above may be resorted to either for therapeutic or prophylactic purposes.

The governor, in conclusion, expresses regret that owing to business vocations or inconsiderateness of youth, this means of averting disease is deferred till old age, when it can be of no avail.

It is to be presumed that His Excellency experiences in his own person the advantages that accrue from this form of massage, and that, unlike persons whom I have sometimes met, he does not employ it in the vain hope drawn from religious books (Taoist and Buddhist) of thereby becoming a genius, or Buddha, but for the maintenance of health; and doubtless advantage is derived from certain portions of the exercises both in health and disease.

Shampooing and massage are resorted to by all classes at all times, barbers being the operators, who, on completing tonsorial labours, pound those who can afford to pay for the luxury on their backs and limbs, and sometimes titillate everted eyelids. In military training great attention is paid to gymnastic exercises, chiefly in lifting weights, and various performances, some being of an acrobatic character, accompanied by grimaces and yells indescribable; but running and leaping are not included, nor games demanding muscular exertion. Pugilism is comprehended in the instructions of General CH'Ū (middle of 16th century), who illustrates that art by diagrams (練兵寶紀, 戚繼光); it is sometimes practised by candidates for military honours. Skill in swimming is required of naval cadets, an art which KUAN-CHUNG (died B.C. 645) said should be acquired by soldiers, in order to be made independent of boats.*

* * For an interesting and very complete account of the "Cong-fou des Bonzes Tao-sée" I refer the reader to the *Mémoires concernant l'Histoire, etc., des Chinois par les Missionnaires de Pékin*. Paris: 1776-1814; t. iv, p. 441.

* 管仲, cap. xvii.

II.—SPECIAL SERIES.

No. 1. —NATIVE OPIUM	Published	1864.
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„ 3. —SILK	„	1881.
„ 4. —OPIUM	„	1881.
„ 5. —NOTICES TO MARINERS : Third Issue (First Issue, 1883) ...	„	1885.
„ 6. —CHINESE MUSIC	„	1884.
