CUSTOMS GAZETTE.

No. XIII.—JANUARY-MARCH, 1872.

PART VI.

MEDICAL REPORTS FOR THE HALF YEAR ENDED 31ST MARCH, 1872.

BEING No. 3 OF THE SERIES.

PUBLISHED BY ORDER OF

The Inspector General of Customs.

SHANGHAI:

PRINTED AT THE CUSTOMS PRESS.

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National Oceanic and Atmospheric Administration

Environmental Data Rescue Program

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Inspector General's Circular No. 19 of 1870.

Inspectorate General of Customs,
Peking, *31st December*, 1870.

SIR,

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

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

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

b.—Diseases prevalent at.....

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

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

e.—Peculiar diseases; especially leprosy.

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

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to, will serve to fix the general scope of the undertaking. I have committed to Dr. R. 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.—That the Medical Officer at your port may know who are the other members of the profession with whom he is invited to join in this work, I append a list of the officers at each port or place.

Peking,	Dr. J. DUDGEON.
Newchwang,	Dr. J. WATSON.
Tientsin,	Dr. J. FRAZER.
Chefoo,	Dr. CARMICHAEL *(a)* and Dr. MYERS.
Hankow,	Dr. A. G. REID.
Kiukiang,	Dr. G. SHEARER.
Chinkiang,	———
Shanghai,	Dr. BARTON, *(b)* and Dr. GALLE.
Ningpo,	Dr. R. MEADOWS *(b)*.
Foochow,	Dr. J. M. BEAUMONT.
„ Pagoda Anchorage,	Dr. SOMERVILLE and Dr. SHERWIN.
Amoy,	Dr. JONES and Dr. MÜLLER.
Tamsui,	Dr. L. H. FRANKLYN.
Takow,	Dr. P. MANSON.
Swatow,	Dr. SCOTT.
Canton,	Dr. F. WONG.
„ Whampoa,	Dr. R. SHILLITOE *(b)*.

I am, &c.,

(signed) ROBERT HART,
I. G.

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

(a) Absent. *(b)* Resigned.

SHANGHAI, 10*th August*, 1872.

SIR,

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

A.—Report on the Health of Peking, pp. 7–9;

B.—Report on the Health of Newchwang, pp. 10–15; each of these Reports relating to the April–September half year (1871).

C.—Report on the Health of Newchwang, pp. 16–18;

D.—Report on the Health of Canton, pp. 19–21;

E.—Report on the Health of Amoy, pp. 22–33;

F.—Report on the Health of Takow and Taiwan-foo, pp. 34–36; each of these Reports relating to the October–March half year.

G.—Report on the Sanitary Condition of Chefoo, pp. 37–42.

H.—Report on the Health of Hankow, pp. 43–54;

J.—Report on the Health of Swatow, pp. 55–57; each of these last two Reports relating to the October–March half year.

K.—Report on cases treated at Kiukiang during the half year ended in June; pp. 58–65;

L.—Memorandum on Steppe Murrain in Shanghai, pp. 66–76.

M.—Report on the Health of Shanghai, pp. 77–86; this Report relates to the October–March half year.

N.—Addendum to Peking Report, giving a brief sketch of the Health of the capital during the October–March half year.

I have the honour to be,

SIR,

Your obedient Servant,

R. ALEX. JAMIESON.

THE INSPECTOR GENERAL OF CUSTOMS,

Peking.

The Contributors to this Volume are—

J. DUDGEON, M.D., M. CH., ...	Peking.
J. WATSON, M.D., L.R.C.S.E., ...	Newchwang.
F. WONG, M.D., L.R.C.S.E., ...	Canton.
AUG. MÜLLER, M.D., ...	Amoy.
P. MANSON, M.D., M. CH., ...	
D. MANSON, M.B., M. CH., ...	Takow and Taiwan-foo.
W. W. MYERS, M.B., M. CH., ...	Chefoo.
A. G. REID, M.D., F.R.C.S.E., ...	Hankow.
E. I. SCOTT, L.R.C.S.I., ...	Swatow.
G. SHEARER, M.D., L.R.C.S.E., ...	Kiukiang.
E. HENDERSON, M.D., L.R.C.P.E., L.R.C.S.E., ...	Shanghai.
R. ALEX. JAMIESON, M.A., M.D., M.R.C.S., ...	Shanghai.

A.—Dr. John DUDGEON's Report on the Health of Peking for the half year ended 30th September, 1871.*

DURING the six months under review, there were two deaths among the foreign community of the capital, one, a Russian lady, from puerperal fever, the other, a British subject, from typhus fever. Fever, as I will shew in a subsequent Report, is the most fatal of all the ailments to which foreigners are here subject; it is likewise, after small-pox, the most prevalent affection among the Chinese. It is called by them the hot disease. The fatal case of typhus above referred to was distinctly traceable to the opening and cleaning of a drain in the Legation, which the deceased undertook to superintend. He took ill almost immediately thereafter and died within six weeks of the exposure. Numerous cases of low continued fever are seen yearly in summer.

Diphtheria was not absent during the whole summer, although it did not exist in an epidemic form. I have, in a few cases that came under my observation, used lime water and tincture of iodine for brushing the throat, with considerable success.

Carbuncles are at all times very frequent among the Chinese, but I have been struck this summer by their size and number. They have been situated almost entirely on the posterior part of the trunk and neck. The largest was nearly one foot long by eight inches broad; the smaller ones averaged about four inches in diameter. Crucial incisions were freely and deeply made, to allow exit for the pent-up pus, and the sloughing and dead tissues were unsparingly removed with the knife. The individuals so attacked were beyond the middle period of life, and were in a debilitated condition. The mortality was of course very great. Those at the back of the neck were distressingly large. The patients never demurred to the free use of the scalpel. Having already suffered for 15 or 20 days, and having tried unsuccessfully all the native nostrums, they were anxious to obtain relief, and seemed to be aware of the propriety of having such accumulations of pus evacuated.

The popular name here for carbuncle is *shang* or *hia ta* (上, 下 搭), according as it is situated in the upper or lower part of the back. The term *ta pei* (搭 背) is also used, but the proper book expression is *fah pei* (發 背), denoting an issuing or springing forth of the spinal column. It is classed among the cancerous, malignant and other sores. Several varieties are mentioned and named according to their locality on the body.

In the spring there was a considerable tendency both among foreigners and natives to erysipelas, mumps, tonsilitis, and sore throat generally.

But by far the most common affection during the period under review was *ague*, and a reference to the rainfall, and abstract of thermometrical observations, with my remarks thereupon, which follow below, may throw some light upon the greater prevalence of this disease this year than at other times. It is usually the rarest of diseases. Of all classes of disease seen at the Peking Hospital in 1864 and 1865 ague formed each year only one per thousand; in 1866, four per thousand; and in 1867, five per thousand, which was the highest rate during ten years. In that year (1867) there was an unusually large fall of rain in August and September.

The popular name here for ague is *yau tse* (瘧 子). The character 疟 is not found in MORRISON's Dictionary, although it is in KANGHI's. The book name is *nüe chi* (瘧 疾), so called, according to a medical writer of this dynasty, from its resemblance in its treatment of people to a harsh and cruel man. Several kinds of ague are specified in Chinese medical works. The principal are the following, ranged according to their causes, wind, 風; cold, 寒; heat, 熱; damp, 濕; phlegm, 痰; food, 食; excessive exertion of body or mind, 勞; spirits (devils), 鬼 邪; epidemic, 疫; pestilential vapours issuing from deep valleys, 瘴; and old

* This Report and the following should have appeared in the last volume, but were received too late. R. A. J.

ague, 瘧. The latter is caused by phlegm, water and bad blood getting coagulated into one lump, which is buried in the body, and which becomes enlarged and painful. This kind is well known as *mother ague.*

The kind called *kwei* or *heich* is caused by a person, especially from a distance, sleeping or watching in a room with a corpse. He is afterwards seized with cold and hot attacks and has bad dreams. MORRISON, I think, is wrong in stating that this form relates to irregularity in the time of the fits.

The symptoms of ague are minutely and very correctly described in all Chinese Medical books from 2600 B. C. down to the present dynasty. The cause of the cold and hot stages is traced to a want of harmony between the two principles in nature, *the yin and the yang. The former represents the cold, the* latter the hot period. In the one case the *yang* is conquered and the *yin* prevails, which ushers in the *shivering stage;* the two principles meet again, and this time on the outside of the body, and fighting again ensues, when the *yang* conquers or prevails over the *yin.* When the yang is very weak the cold period is intense and the very bones become painful; when the yin is weak, there is great external and internal heat, and thirst ensues, with quick breathing. In the yin stage the pulse is slow; when the yang comes, the pulse is quick. If the pulse be short it has been injured by food, if slippery it has been caused by too much phlegm, etc., etc.

ABSTRACT of Thermometrical Observations taken in the open air at Peking, facing the North, from 1st April to 30th September, 1871, with Negretti and Zambra's Self-Registering Thermometers:—

1871.	MAXIMA.		MINIMA.		AVERAGES.		RAIN FALL.		SNOW FALL.	
	Day.	Night.	Day.	Night.	Day.	Night.	Days.	Amount.	Days.	Amount.
April,	85°	57°	58°	32°	71°	43°	2	3/8 inch.	1	1/8 inch.
May,	100°	69°	67°	43°	84°	52°	4	1/4 "	...	...
June,	100°	74°	72°	59°	90°	66°	6	3 3/8 "	...	...
July,	98°	77°	83°	62°	91°	72°	15	17 1/2 "	...	...
August,	96°	77°	74°	55°	88°	71°	11	9 "	...	...
September,	91°	70°	58°	43°	75°	59°	10	11 1/2 "	...	...

Remarks on the above Table.—An admirable sketch, illustrated by a photograph of a drawing of the floods which have inundated North China, will be found in the Customs Gazette for the quarter ended *September 1871. Much of what is there said of Tientsin and its neighbourhood applies with equal force to* Peking, thus rendering it unnecessary to enter into details regarding the extent of the inundation in this province. I will therefore refer only to the capital, leaving the reader who desires further information to consult Mr. HANNEN's report. Much may be learned by a glance at the above table.

Our unprecedented rains began on the 6th July. On the 8th a shower of hailstones, the largest being about the size of walnuts, fell in various parts of the city. During 18 hours of the 9th and 10th it rained 6½ inches; it cleared up on the 12th but began again on the 13th, and rained more or less without intermission until the 20th. On the 15th it rained 3 inches in about two hours, such as it had never before been known to rain. Towards the Western Hills the rain on this occasion was much less severe. On the 26th July it rained ¼ of an inch, making in all for this month 15 days of rain and 17½ inches of fall. On the 4th August, it began again and rained till the 10th. On the 31st it rained 1½ inch. The rain during this month was more severe towards *the Western Hills. On the 12th September the third and last great rain began and* continued for 7 days. During these three months the fall of rain exceeded 3 feet.

The condition of the city during and after these rains was indescribable. Large portions were, of course, under water; communication was almost impossible; trade was well nigh suspended. The portions above water were likewise impassable from mud and tumbling houses or walls. The roads outside the city, at all times the beds of streams, had now assumed the dimensions of rivers, and could boast of a depth in some places of 16 feet. Several foreigners in carts and on horseback, in the proximity of the Western Hills, at the first onset of the rains, narrowly escaped with their lives. There the waters came down with a velocity

and volume almost inconceivable. Mud houses everywhere, of course, resolved themselves into their original constituents. Many houses that were never known to have leaked before, leaked now. Hardly a house escaped damage. Quite a large number of lives were lost from falling walls and houses, and a few also from drowning. The last rain came very inopportunely in the middle of the millet harvest, and caused much of the grain to germinate. A large tract of country was laid under water by the Hwĕn Ho bursting its banks, close to the bridge *Lu-kew*. The land being comparatively high here, there was no general inundation, all our water tending towards Tientsin—the meeting point of the waters of this province.

The hottest days during the past six months were the 31st of May and 5th and 8th of June, all equal; the hottest nights were the 22nd July and 3rd of August, both 77°. The three coldest days were April 19th, ½ an inch of snow and rain having fallen the previous day, and September 16th and 17th, each being 58°. The last two days were in the midst of the last great rain, and the ladies and children at the monasteries on the Western Hills, being unprepared for this sudden cold, without warm clothing and with hardly a dry inch of ground whereon to sit or lie, felt it severely, and great fears were entertained regarding their safety and comfort. The roads being impassable, and being comparatively remote from the city or any market village, supplies of food and fuel failed them for several days. The coldest nights were the 20th of April and 26th September.

Supplementary Note on Small-pox.—The views regarding the origin of small-pox expressed in my Report (No. 1 of the Series, p. 115) receive confirmation from a statement in a book on the subject, entitled *Chien chin chi pau* (千金至寶) written by a literate called Chwang (莊), a native of Hunan, in the present dynasty. He states that the first appearance of small-pox in China was in the reign known as Chien Wu (建武), *i.e.*, A. D. 317. The Emperor's name was SZ-MA-YEN (司馬炎) and his posthumous name is YUEN-TI, the first of the Eastern Tsin dynasty (A.D. 317–420). This dynasty followed immediately after the three kingdoms. In a Corean medical work which I have consulted, called *Tung-i-pau-chien*, it is stated that the ancients knew nothing of small-pox and measles, but the writers believe that it took its rise somewhere about the end of the Chew and beginning of the Tsin dynasty, in other words about the year B.C. 249. But as I have before shown, this position is quite untenable.

B.—Dr. James WATSON's Report on the Health of Newchwang for the half year ended 30th September, 1871.

IN my last Report I gave a short and general account of the district in which this town is situated. In the present instance, I will indicate the special characteristics of the climate during the months under review, with the state of health in and around the foreign settlement. I will then make a few remarks on the native people and their food, and I will conclude by pointing out the peculiar advantages this district possesses, and which in my opinion qualify it for becoming the sanitarium for foreigners living in China.

The months of April and May were more than usually boisterous, and it was a rare occurrence when we enjoyed a day of perfectly calm weather. The spring was in other respects pleasant, being somewhat warmer than we generally have it. The summer months were remarkably cool, and by the middle of September the weather was so cold as to necessitate the adoption of much warmer clothing than is commonly worn in that month, while several people found it necessary to have their stoves put up, although in ordinary seasons fires are unnecessary until about the end of October.

In the spring months inflamed throats, bronchitis and pulmonary affections generally were very frequent, especially among children and the younger members of the community. The increased frequency of these ailments during the months of April and May was doubtless due to the high winds which prevailed, for although the season was slightly warmer than previous ones, the effect of a less degree of cold upon the animal economy when the air is in motion, is much more severe than a greater cold when there is a perfect calm. The great dust which the high winds caused was an additional irritant to the lungs. To the prevalence of this fine, dry and gritty dust, which our windows and doors failed to keep out, coupled with the draughts in badly built houses, must be attributed the frequent relapses which patients suffering from pulmonary diseases experienced. Patients who were to-day nearly well would on the morrow be again distressed by all the acute symptoms of their first attack. In many cases these relapses occurred three or four times, notwithstanding the greatest care on the part of the sufferers, until some patients began to fear a fatality attended them, and that in spite of their good constitutions they would never get well. With the advance of summer and the abatement of the force of the wind these affections became rare. They are never altogether absent.

The summer months, June, July, August and first half of September, were as I have said remarkably cool, although on a few occasions the thermometer in the shade and out of doors stood at or about 92° Fahrenheit. Within doors the highest heat registered was 86°. The winds were light and so variable that I have noticed that they sometimes changed their direction three or four times in the course of an hour. The disease which is most frequent and severe during the warm weather is, as a rule, diarrhœa, but this summer it was comparatively rare. Numerous slight cases occurred but there was not a severe one in the settlement. There were a few cases of dysentery and severe diarrhœa among the sailors in the harbour, but of these the former were altogether, and the latter mostly, imported from the south. Diarrhœa is here most frequently induced by the sufferer from heat exposing himself to the pleasantly cool breezes which so constantly occur and which we all find so grateful in the summer. The next most frequent cause is the eating of unripe fruit. To these may be added indiscretions in diet generally; but as this last cause is unfortunately peculiar to no district, it is almost unnecessary to mention it. Unless in imported cases of dysentery, where the constitution is undermined, the disease is here very amenable to treatment. Complete rest, simple diet, a few doses of ipecacuanha and soothing injections, followed by slight astringents, have been ordinarily successful in checking the discharges. Afterwards tonics and careful living speedily restore the patient to perfect health. I find that people who during the warm weather keep out of the direct rays of the sun, wear a broad flannel belt around the bowels, and are moderately careful in diet, are seldom attacked by diarrhœa, and if they are so unfortunate as to suffer from it, one or two large doses of opium with chloroform, or sulphuric ether, coupled with the recumbent position, speedily restore them to health. Cases evidently due to gross indiscretion in diet must be treated here as elsewhere, but

even these benefit from the peculiar advantages of the climate, and the complaint seldom developes into dysentery.

But for the great prevalence and severity of complaints of the respiratory system during April and May, I should have been able to congratulate the residents upon the unusual healthiness of our settlement during this half year. As it was, the salubrity of the latter months nearly, if not altogether, made up for the inclement spring. During the half year no case of contagious fever occurred, although many suffered from febricula, principally due to the very sudden changes of temperature to which we are liable. The other diseases which occurred were such as are met with in every climate and at all seasons, and include rheumatism, neuralgia, slight affections of the liver, pleurisy, peritonitis, phlebitis (after child birth), abscess, ulcer and, most common of all, intestinal worms.

In the month of April one death occurred among the residents* and as the case affords a good example of the class of disease which terminates fatally here, I will mention a few details about it. About three years ago I was asked to see G. B. a sailor lad on board an English vessel then in port. When I saw him he told me he was better and that the suffering which had induced him to ask for medical advice had gone. As he went away I noticed something peculiar about his walk and I called him back and made him take off his shirt. I at once noticed that there was considerable curvature of the spine, and I found on pressure that it was very sensitive. It was evident that his only chance of recovery was to be found in perfect rest and careful treatment, such as he was unlikely to obtain except in one of our hospitals at home, and so I told him. The patient was somewhat incredulous, but before the ship left port his symptoms became aggravated, he suffered from pain in the neighbourhood of the spine, great weakness in the back and limbs, difficulty of breathing, &c. He found himself unfit for his duties on board, and one of our store-keepers needing an assistant engaged him. Gradually the curvature of the spine got worse, until he became completely doubled and was unable to assume the erect position even for a moment. Last winter his general health having become sadly impaired, he suffered from rheumatism from which he recovered, when suddenly one hip joint became inflamed. He was now extremely weak and emaciated. While still suffering from inflammation of the hip joint, he caught cold, inflammation of the lungs supervened, and in less than a week the poor lad died of acute phthisis. Here the direct or immediate cause of death was inflammation of the lungs, but the predisposing, and in this instance the real cause, was the spinal disease which had existed for years before he became a resident at this port. I mention these details to show that the climate had little to do with the death in this instance. It may have hastened it slightly, but it certainly had nothing to do with the origin of the spinal disease, which by weakening the system and predisposing it to inflammatory attacks was the real cause of death.

In nearly all the deaths which have occurred among residents at this port for the last seven years, some distinct organic disease has been discovered which must have caused death in any climate. The two or three instances where no such direct cause was made out, were in men who had been dissipated in their habits and had no treatment until the disease which carried them off had thoroughly exhausted their systems.

A member of a Protestant mission stationed at this port had to leave it this summer for home, because of the depressing effect on his health of the cold winter and the variable spring weather. Another member of the same mission died in the month of February last. In these cases I fear there is no doubt that the winter climate had a prostrating effect. Both were under the care of the medical gentleman attached to the mission, but I learned from them that phthisis existed in their respective families. Their cases, therefore, belonged to one of the classes of disease for which, as pointed out by me in my last Report, this climate, or rather the climate during winter and spring, is ill adapted. Few places could be better suited for phthisical patients than this province in the summer and early autumn.

* During the half year there were two deaths among the shipping. In one case a captain went to bed apparently well, but was found dead by his steward in the morning. A postmortem examination discovered disease of the heart. The other case was one of imported dysentery in a sailor.

The Chinese population, equally with the foreign residents, enjoyed immunity from contagious fevers, with the exception of small-pox, which is never entirely absent from this town and district. The Chinese were in other respects tolerably healthy, although they suffered to a certain extent from respiratory ailments, but the exceptionally boisterous character of the spring had not such a marked effect upon them as upon foreigners. A great deal of poverty was experienced during the preceding winter, which, with the bad trade of summer, caused a large amount of suffering. Under these circumstances it was to be expected that disease dependent upon improper nutrition would be more frequent than in more prosperous times, and such was the fact. Many cases of scrofula and sluggish ulcers were to be met in the streets; and beggars, who are here rare, became decidedly more common. In spite of these admissions however, the general health of the Chinese was good, if not quite up to the standard of some of the preceding years.

The people of this province are true Chinese. They use the same language, dress (slightly modified to suit the climate) and customs which prevail in China Proper. There are a considerable number of Manchu villages scattered over the province, but in everything but name and tradition these may be considered Chinese. The Chinese and Manchus freely intermarry. Foreigners are only able to distinguish a Manchu from a Chinese community by the women of the former having large feet. This province has, to a great extent, been peopled from Shantung; it is the Canada to this and other overpeopled regions in China. The race certainly thrives in its adopted home. The men are tall, large and well built. The women away from the towns and cities have clear complexions. The skin of men and women is much whiter than that of the Chinese of the south. But for the peculiar Chinese eye and general absence of hair on the face, the men might be mistaken for English if appropriately dressed. The chief employments of the people are agriculture and the trades necessary to furnish implements for the cultivation of the soil and the gathering and conveyance of the crops. There are besides large numbers employed as sailors and carters to bring the produce from the interior to the ports. The former, in consequence of the hard frost, can only work in the open months; while the latter, in consequence of the bad roads, or rather absence of roads, are only able to work in the winter, when the ground is hard as iron, and locomotion is comparatively easy. The people are, as a rule, sober, industrious, marry young, and although poor are anxious to have children. Their necessities are few and seldom unsupplied. Visitors from the south of China are struck by the general absence of those social pests, beggars, from our settlement. In country districts they are almost unknown, and even in large cities, such as Kai-chu, Hai-ching and Moukden they are by no means numerous; indeed, the impression made upon an observer is that the people are well fed and contented. It would be difficult to find anywhere a finer race of men, viewed as mere animals, than are the majority of the boatmen in the river craft and the coolies who carry loads of produce from the native yards to the loading junks, or a hardier set of fellows than those who drive the large teams from long before daylight until sunset in our winter weather. In summer the boatmen are often seen stark naked, rowing or pulling their heavily laden craft when the wind fails them, and it has often struck me when watching them that it would be difficult to find anywhere men of a finer development. I had no idea that naked man was so beautiful until I saw these strong-limbed, broad-chested fellows straining their muscles until they became sharply and clearly defined beneath the skin. That the people which this and the other provinces of Manchuria possess are capable of great endurance, and are well fitted for soldiers if properly drilled, are established facts. That they will eventually make this somewhat inhospitable country rich as they have already made portions of it beautiful, is nearly certain. They have given China rulers; they are potentially a great people, and it is highly probable that in the future they will exercise a healthy influence upon China, as in the past they have exerted a powerful sway. The people are much more friendly to foreigners than are the southern Chinese, are more honest and less cunning, and if in some respects they are also less enterprising, this may to a certain extent be explained by their comparative ignorance and poverty, both of which are gradually disappearing as the country is becoming more densely peopled and better cultivated.

The food of the people is extremely simple, cheap and nourishing. Nine-tenths of them live principally upon millet, a grain which seems to possess all the essential elements of nutrition. It is simply

boiled in water, and is very often eaten alone. Occasionally some other vegetable is boiled with the millet, more rarely a piece of mutton or bacon. The quantity of animal food added to the dish is small and is rather intended to flavour the meal than to nourish the body. When fish is cheap, as it usually is in the summer, it is eaten by the common people. The rich eat rice, (which with them takes the place of millet) fowl, mutton, bacon, fish and rarely a small quantity of millet. Beef is not much eaten, but vegetables such as cabbage, carrots, turnips, &c. are held in great repute by rich and poor alike. But for all practical purposes the food of the people is millet, and the foregoing remarks show how thoroughly this grain answers the purpose of human food. On this simple diet, a family of six people can live well for about four dollars a month. This accounts for the few beggars, as it also explains the general healthy appearance of the natives. If they will but work there is no need that they should starve; and the people here do work, and many must labour hard before they earn even such food as they eat. In addition to the solid elements in their diet, all who can afford it drink a rather coarse spirit manufactured from the millet, but so sparingly do they partake of this, that it is rare to find a Chinaman drunk. I have lived nearly seven years in this province, and have visited as many cities, but during that time I do not think I have seen more than seven Chinamen really drunk, and never a Chinawoman. It may therefore be fairly considered that here spirits, as an article of diet, are used advantageously, and very rarely abused. Tobacco is smoked by men, women and children, and I cannot say that I have noticed any distinct evil effects from the habit. I regret to add, however, that opium smoking, although far from general, is on the increase; and while I am not at present prepared to admit or contradict the opinions of those who maintain that it is an altogether unmixed evil, its consequences are so disastrous in many cases as to make all earnest men regret its increasing hold upon the people of this great Empire.

Before leaving the subject of the food of the people of Manchuria, I will narrate an experiment I made with millet in the spring of this year. I was anxious to try the effect of millet on European constitutions, and a good opportunity occurring I availed myself of it. A sailor who had been guilty of several serious offences, was sentenced to solitary confinement for 49 days in the consulate gaol. As I had medical charge of him, I requested and obtained permission to feed him solely on millet and water, on my promising to change the food at once if he lost weight or seemed in any way to suffer from his restricted diet. He entered prison on the 3rd April when he weighed 146 lbs. 8 oz., and he left it on the 22nd May weighing 147 lbs. 14 oz. Throughout his confinement he never weighed so little as on the day it commenced, and this in spite of the depressing effect of solitude and the monotony of his food. Although the nights were sometimes cold, the cell had no fire; the prisoner was, however, allowed as much warm clothing as he required. He ate about 3½ lbs. of millet daily, which he said he enjoyed, and when he left prison he looked, as he said he felt, perfectly well. This experiment is interesting as showing that the grain which has been chosen by the people as their principal food is capable of maintaining for a considerable length of time perfect health under very depressing circumstances.*

From the foregoing notes, and from what I said in my first Report, it appears that the climate of the summer months is in this province very healthy. Such a climate in a pleasant country would be a boon to foreigners in China, oppressed by the trying summers of the southern ports. It is not generally known that in this region within in some cases a few hours, and in others a few days journey, scenes

* The following figures will show the changes he underwent in weight while in prison:—

April	3rd			146 lbs.	8 oz.
„	4th	to	15th	147 „	13 „
„	15th	„	21st	148 „	8 „
„	21st	„	5th May	149 „	5 „
May	5th	„	9th	148 „	8 „
„	9th	„	14th	149 „	6 „
„	14th	„	19th	148 „	8 „
„	19th	„	22nd	147 „	14 „

The lowest of the minimum temperatures registered during the 49 days of his confinement was 26° F., the highest of the minimums was 57°.

of great beauty can be reached. Four or five hours sail from this harbour, with a fair wind, brings one to a sea coast, with a nearly continuous stretch of from ten to twenty miles of sandy beach, interrupted occasionally by rugged rocks, in which the sea has worn out great caves and massive boulders. This sandy beach impinges upon the slopes of cultivated hills rich with cotton and hemp, while the valleys beyond bear magnificent crops of peas and millet. Few sights are more beautiful than a large field of peas, presenting the appearance of a wavy sea of green extending sometimes for miles, and richly adorning the landscape. This district lies directly to the south of our settlement, and is distant about 30 miles; it extends from Kai-chu to Tower Hill, and ships passing to and from this port are distinctly seen from the cliffs above the beach. I had the temperature taken daily at Kai-chu from the 1st July until the 18th September, and the highest temperature, attained at rare intervals and for very short periods during these months in a bungalow built upon an elevation of about 100 feet above the sea, and in which windows to the north and south were continually open, was 84°. The temperature at night was, as a rule, 10° lower than the maximum of the day, but was sometimes much below this. Before the middle of September it was so cold that windows were shut during the day, and warm clothing put in requisition, and by the 19th September those who were not supplied with a sufficiency of warm clothing were glad to beat a retreat to this port. It is true the past summer was exceptionally cool. The temperature is generally about 4° cooler at Kai-chu Point than in our settlement, but occasionally the opposite is true. At Kai-chu beach very good bathing is to be had. The roads are good for riding or walking. The hills are close at hand and are not too steep or high; and thus even in summer, the holiday keeper is tempted to climb their summits, when the eye is at once refreshed and gladdened by the fine prospect of bounteous valleys and the ever moving sea, whose waves break at the base of the green cultivated slopes. The country in this neighbourhood is so admirably drained by nature, that when heavy rains occur, as they sometimes, but rarely, do, a few hours render the walks and roads dry, and exercise is at once possible and pleasant. The sides of some of the hills are covered with shrubs and young trees; picturesque villages surmounted by handsome trees are numerous, while scattered over the whole district there are small but beautiful plantations.

If a seaside resort is not a desideratum, there are many inland regions which would well repay a month's residence. Unfortunately in summer the roads are so bad that delicate people would be unable to undergo the fatigue unavoidable in travelling. It is impossible for me in these notes to mention all these places, I will therefore only invite attention to one district which has been visited by several foreigners, and in every case with great satisfaction. Between 80 and 90 miles to the north-east there are several Buddhist and Taoist monasteries built on the terraced sides of the C'hien-shan 千山. The name is poetical but appropriate. The hills consist of a congeries of whorls, every whorl being made up of a number of sharply pointed pyramidal hills, which are all clad on one side from base to summit, with oak and fir, and shrubs of different kinds. The temples, although poor as architectural specimens, afford very fair accommodation, and, as their situations have been chosen by an artistic eye, they are invariably charming. From any one of the terraces in front of the many temples, there is a beautiful view of rugged ravines, steep precipices, wooded hills, and in the valleys a luxuriance of wild flowers and shrubs; while from the summits of the higher hills a great expanse of cultivated ground bearing abundant crops greets the eye. The scenery is delightful, and it is difficult to say whether the element of grandeur or of richness is the more impressive, so admirably do the different features combine to make a pleasing and harmonious picture.

At the seaside, or inland among the mountains, the tourist simply in search of change, will find all he seeks. The sportsman will, at the C'hien-shan, find occupation for his gun, and, if fortunate, may meet with such noble game as the bear, panther and tiger. I have myself seen the tiger there. At the seaside there are occasionally a few wolves, but no foreigner has seen any; and there is little to shoot but a few wild pigeons, except in the spring and autumn when wild geese and duck abound. Travelling by road being so difficult in the summer, the seaside which I have described is the only place likely to commend itself to the sick or convalescent, but it is at least well to know that within four or five hours from Newchwang there are to be found good sea bathing and pleasant roads through the valleys and over the hills, where in the mornings and evenings the patient will find ample scope for exercise. During the months of

June, July, August and September, the climate at Kai-chu beach is not surpassed by any in the world. The exceptional dryness is moderated by the sea breeze and occasional showers, and the few days of heavy rain are only disagreeable while they last. The air never feels damp for more than a few hours at a time, and that at long intervals. The morning air is exhilarating in its charming freshness, while the cool evenings soothe and refresh the weak, and sleep, which here requires no wooing, is followed by increased strength and energy.

The foregoing remarks will seem exaggerated to those who have only seen our settlement and the immediate neighbourhood, or are familiar with the descriptions of them in the letters of correspondents of the press in China. For many miles the country round our port is very uninteresting, and at some times of the year it may deserve the description commonly given of it by visitors. It is beyond these limits that the country is full of beauty, and is endowed with the summer climate I have described. Unfortunately the absence of regular steam communication with the south renders the advantages this province offers as a sanitarium unavailable to many of those who most require them.

TABLE of extreme Temperatures and Barometrical Changes during the April to September half year.*

MONTH.	THERMOMETER.		BAROMETER.		REMARKS.
	Highest.	Lowest.	Highest.	Lowest.	
April,	70°	27°	30.30	29.60	The period was very dry, yet the crops were exceptionally good, and but for one early day of frost would have been superior to any we have had in this province since foreigners settled here. The weather which became very cold about the middle of September, got warmer before the end of the month.
May,	75°	34°	30.04	29.50	
June,	84°	53°	30.05	29.65	
July,	92°	66°	30.04	29.50	
August,	89°	60°	30.05	29.70	
September,	83°	48°	30.42	29.83	

* The thermometer was hung under a verandah on the northern wall of the Custom House. The barometer readings are taken from the instrument in the Harbour Master's Office.

C.—Dr. James WATSON's Report on the Health of Newchwang for the half year ended 31st March, 1872.

THE month of October is, as I have before remarked, an autumnal one, and it is in many respects the healthiest and pleasantest in the year. Last October was no exception to this rule. The temperature which had become unseasonably cold by the middle of September, became more genial before its close, and October was, *so far as climate was concerned, a mild and agreeable month; during it there was little or no* sickness.

The other five months of this half year constituted our winter. This season is always cold, but the one under notice was more severe than any experienced since foreigners settled here. The preceding summer was cold and dry. The winter was extremely cold, dry and dusty, men and animals alike suffering from the extraordinary drought. The Chinese assert that more mules and horses died during the last six months than in any similar period that they can remember, and the cause of this misfortune they assure me was the fine dust which prevailed during the greater part of the winter, and which entered the lungs and stomachs of their animals and so induced sickness and death. That the dust may have contributed to this result is very probable, but I think the extreme cold accompanied often by north-east winds, was a more potent cause and was sufficient of itself to account for the large number of deaths and the great amount of sickness which prevailed among all animals of burden.

That the human species suffers to a considerable extent from the prevalence of fine dust, I had ample opportunities of seeing during last winter. Had Chinese and foreigners not been well housed and fed, *they would have suffered still more.* I have never since arriving here had so many Chinese applying for relief for inflamed eyes and eye-lids, as in the last six months. That dust and wind were the cause of *these affections there can be no doubt. The ordinary complaint the patient made when first seen was that* his eyes were painful, but when examined the disease was generally in the eye-lids. These were greatly inflamed (granular) and the inflammation of the eye was secondary. The eye-lids were frequently quite everted (ectropium). Treatment by the free application of solid sulphate of copper was perfectly successful, and in Chinese estimation marvellous. A number of Europeans suffered from milder attacks of the same affection which yielded immediately to the usual treatment.

The only other disease which attracted special notice during this winter was an affection of the throat of which I have now met a good many instances. It rarely if ever occurs except in winter, and I have not seen it except at this port. It is sometimes associated with disease of the lungs, but this is not a necessary condition of its existence. It attacks in preference weak constitutions, but one of the severest cases I have encountered occurred in a patient whom I have known for the last seven years and who has, as a rule, enjoyed *the best health and who has a robust constitution. The course of the disease is as follows:—A chill is* experienced, followed by more or less severe fever which lasts generally for no more than from one to three days if the patient is under treatment and confined to the house. *Discomfort in the upper part of the throat* is then felt, the sensation being of something to be coughed up, and the patient attempts in vain, during the first days of the disease, to relieve himself by getting rid of it. On the fourth or fifth day after the chill, the mucous membrane at the back of the pharynx seems to have disappeared,—that is to say the membrane has lost altogether its distinctive character. The surface looks as if a dry sponge had been applied to it with considerable force and that the mucous secretion had thus been rubbed off. What remains of the membrane is dry and shining and looks tightly stretched. Soon after this dry and stretched condition of the throat has been noticed, the patient has his attention drawn to a thin white membranous exudation which in the mornings he coughs up. This exudation, at first white and thin, becomes yellowish and thick. It is now evidently the cause of the cough, for when it is gone, the cough is no longer troublesome. The mucous membrane over the roof of the mouth, tonsils and the other portions of the throat which can be seen, is either healthy quite up to the margin of the diseased surface, or is only very little inflamed, with sometimes

one or two blood vessels considerably injected running across it. The throat is not painful but is uneasy, and at night there is usually more or less loss of voice. In one instance the voice was almost entirely lost and the patient spoke with a great effort, but except in the worst cases the voice returns in the morning. I have never seen an instance of this disease in warm weather, and in my experience it has always got better with the approach of summer.

Associated with this local disease there is always considerable weakness, but I do not feel quite sure whether the disease is the result of the weakness, or the weakness is induced by the disease. Probably the weakness precedes the disease. In one of the cases which I treated last winter, the pulse became remarkably intermittent, returning to regularity after the local disease was cured; but it was many weeks before it became strong and my patient's general health good.

One distressing feature of this disease is the occurrence of relapses. In all the cases I have treated, relapses have been very frequent and without any apparent cause. The patient would seem to be getting better for a few days, as manifested by the mucous membrane becoming moist and velvety, when suddenly it would again become dry, shining and stretched, and the voice would lose its power. Up to a certain point, the membrane seems to improve, but as soon as it reaches this point a relapse occurs, and this in spite of the patient being kept in the same room night and day, and the temperature regulated so that it never varies in the twenty-four hours more than 3° or 4°. While this was going on my patients were in the best conditions for recovery,—their circumstances were comfortable, they lived in good houses and had nourishing food, they were generally able to sleep, and had little to do but to nurse themselves. The medical treatment was moreover appropriate. It consisted in the first instance of steaming the throat with hot water, a little carbolic acid being afterwards added to the water, then gargles containing opium in warm water, followed by solutions of permanganate of potash, sulphurous acid gargles, &c. In addition the throat was rubbed externally with cod-liver oil while the drug was also taken internally. I moreover prescribed various tonics, such as chlorate of potash, syrup of the phosphates, &c. I prescribed the syrup of the phosphates because there was a great excretion of phosphates by the urine, an amount out of all proportion to what might have been expected from the degree of fever which introduced the disease. The diet allowed was generous, with stimulants equivalent to three glasses of sherry per day; but I invariably confined my patient to one kind of beverage, that is if he took beer or brandy or claret, he got nothing else.

So far the result of treatment was in the long run favourable, all the cases having eventually recovered; but this result was only attained after many weeks of treatment, and was invariably coincident with the approach of warm weather. The cases improved under treatment but never got quite well until the temperature rose.

Although some of the symptoms as recorded above are common to well known diseases of the lungs and throat I think there can be little danger of mistaking the affection I have attempted to portray for any of them. The distinctive feature of this disease is the invariable presence of the unhealthy condition of the mucous membrane, which I have described as occurring at the back of the pharynx, associated, as it is almost constantly, with a perfectly healthy condition of the membrane elsewhere.

The disease which it most resembles, and yet which it differs much from, is dysphonia clericorum. None of the patients treated by me during the last winter had occasion to use their voices more than ordinary people. Of six patients treated for this affection of the pharynx during the last seven years, only one had any of the ordinary symptoms of phthisis, while three were unusually strong men.

The general health of the foreign community during the winter was fairly good. There was one death induced by deposit on the dura mater giving rise to convulsions, to which the patient had been subject for five years, the fits becoming each year more frequent and severe. In the intervals the patient, while far from well, was able to attend to his work, and twenty-four hours before his death was in his usual health.

I may here notice a case of paralysis of the bladder, evidently due to injury of the lower part of the spine received some years ago. The patient recovered under the enforcement of perfect rest and the use of the catheter twice daily for several weeks, followed by counter-irritation of the spine, and iron tonics. He is now perfectly well, or at all events the local disease is cured.

With the exception of the cases I have shortly referred to, there were no serious ailments during the half year. The larger portion of the foreign community suffered more or less from slight attacks of catarrh, but this is not remarkable when the great cold which prevailed is taken into consideration. There were besides, one case of severe neuralgia of the eye, one case of croup, two or three accidents, and a few slight ailments such as exist everywhere.

I append a Meteorological Table which gives a very good idea of the severe character of this climate during last winter.

TABLE of extreme Temperatures and Barometrical Changes during the October to March half year.*

MONTH.	THERMOMETER.		BAROMETER.		REMARKS.
	Highest.	Lowest.	Highest.	Lowest.	
1871.					In the month of January the mercury fell every night below zero, from the 12th to the 31st inclusive, and on the 22nd *to 14° below zero. During the six months from October to* March there were altogether 13 days on which slight showers of rain or snow occurred; the former merely moistened the surface of the ground, while the latter did little more than whiten it, except on one occasion when three or four inches fell. On the 15th February there was a great dust storm. During the winter local dust storms were very frequent.
October,.....	73°	30°	30.46	29.20	
November,...	57°	9°	30.65	29.54	
December, ...	40°	4°	30.88	30.27	
1872.					The river was frozen over from bank to bank opposite the settlement on the 29th December, and the ice broke up on the 12th March.
January,.....	36°	— 14°	30.96	30.05	
February, ...	45°	0°	30.98	30.27	The prevailing winds were N.E. and N.W. There were still a few large masses of ice in the river on the 31st March, *although the sun was then becoming very powerful.*
March, ...	52°	6°	30.78	29.92	

* The thermometer was hung under a verandah on the northern wall of the Custom House. The barometrical readings are taken from the instrument in the Harbour Master's Office.

D.—Dr. F. Wong's Report on the Health of Canton for the half year ended 31st March, 1872.

In drawing up this Report, I have much pleasure in remarking on the excellent health enjoyed by the foreign residents during the winter. With the exception of a few cases of a somewhat serious nature, there was comparatively little sickness. The children also, who form nearly one-third of the foreign population, were remarkably healthy. They were not troubled with any of those ailments to which childhood is peculiarly liable, such as measles, whooping-cough, spasmodic laryngeal affections, &c., and scarlatina is so rare here that in 10 years I have seen only one case in a foreign child. Among the serious cases may be mentioned 1 of chronic diarrhœa (imported), 1 of enteric fever, 2 of dysentery, and 1 of hepatitis.

No death occurred.

The past winter was regarded as unusually severe, owing to the continuance of very cold weather for two months, a longer period than has been known during the last 15 years.

The general health of the Chinese population of the city was very good. There was no unusual prevalence of disease beyond what happens every winter among the natives, such as coughs and other bronchial affections, rheumatism and neuralgia, intermittent and remittent fevers, diarrhœa, &c.

There were no epidemics. Small-pox broke out in the month of February, but only in scattered instances. I subjoin a list of the diseases which have come under treatment during the last 6 months:—

Intermittent Fever,	33 cases.	Diarrhœa,	28 cases.
Remittent,	1 ,,	Dysentery,	4 ,,
Typhoid,	1 ,,	Hepatitis,	1 ,,
Rheumatism,	12 ,,	Congestion of the Liver,	4 ,,
Rheumatic Synovitis,	1 ,,	Sore Throat and Cynanche Tonsillaris,	9 ,,
Facial Paralysis,	1 ,,	Hemorrhoids,	2 ,,
Epilepsy,	1 ,,	Cystitis,	5 ,,
Neuralgia,	9 ,,	Orchitis,	4 ,,
Disordered Sensations,	3 ,,	Hydrocele,	1 ,,
Spinal Disease,	1 ,,	Nephritis,	2 ,,
Functional Disease of the Heart,	1 ,,	Congestion of the Kidney,	1 ,,
Adenitis,	6 ,,	Metritis,	1 ,,
Bronchial Catarrh,	11 ,,	Boils, Ulcers and Abscess,	14 ,,
Bronchitis,	1 ,,	Sprains and Bruises,	8 ,,
Phthisis Pulmonalis,	2 ,,	Diseases of the Eye,	4 ,,
Asthma,	1 ,,	,, ,, Ear,	2 ,,
Dyspepsia,	8 ,,		

The above list includes cases seen among the shipping as well as among residents.

The intermittent fevers were nearly all of the quotidian type. In many of them diarrhœa was present at the same time, and treatment was directed against both. In some cases the diarrhœa ceased before the fever was cured, and in others it continued a little while after; but generally so soon as the fever was cured the diarrhœa was easily controlled. This association of diarrhœa with fever is also often met with among the Chinese. Of the four cases of dysentery that came under treatment, two were of a mild character, and the other two, of a more serious nature, were imported. I can add my testimony to the power of ipecacuanha in scruple doses in this disease.

Among the peculiar diseases seen during the last few months may be mentioned the following:—The subject was a foreigner in good health and free from nervous disease. In the cold weather, whenever he came from the open air into a warm room, he felt pricking sensations all over the body which lasted a minute or

two, and then subsided. When he walked in the streets, the same sensation came up from his legs, and gradually extended to other parts of the body. At first every part of the body was attacked, head and face, arms and legs, but after two weeks, when he got somewhat better, the pricking was confined to his legs. The sensation was excited by warmth, exercise and sudden change of temperature, and like prickly heat, was aggravated by mental irritation; but there was no prickly heat or other skin disease to be seen. The peripheral extremities of the nerves seemed to be in a state of irritation, arising from some rheumatic irritation perhaps of the nervous centres. The patient got gradually better, and is now quite well; he took some bromide of potassium; but I think he owed his recovery to time. I have seen several instances of the same among the Chinese, which gradually went away in time, but with them the stinging was more confined to certain parts, such as the back and chest, and it was not so general as in the case above mentioned. I must also add that these Chinese were subject to neuralgic affections.

Of *formication* I have seen several cases, which merit a detailed description, as I have not noticed any account of this affection in medical works. The sufferers were attacked with sensations like the crawling of ants over different parts of the body, and in the cases which came under my observation these sensations were mostly felt on the head and face, though sometimes on the arms and back and other parts of the body. The patients at first always attributed them to the crawling of insects or flies. One Chinese lady who was occasionally attacked imagined that the flowers she wore on her head attracted a number of insects there. They are not felt constantly, but come and go, except in aggravated cases, when they are felt every day, or nearly all the time with different degrees of intensity. They are apt to be worse at night, when they are sometimes so bad as to interfere with sleep. In mild cases they are felt only occasionally, in such weather as commonly produces neuralgic pains, such as a few days before the fall of rain, owing perhaps to certain electric states of the atmosphere. In severe cases, even a mass of clouds over head is sufficient to bring them on. They are excited by heat and atmospheric changes, and by causes working on the mind, as mental anxiety, emotions of fear and anger, and even by reading and writing. Cold has a soothing influence, and in cold weather they are not so much felt. I myself have seen 5 cases of this disorder, and I have heard of 6 more from good authorities. The patients were all Chinese. So far as I know, both sexes are equally liable to be attacked. Of the male patients 2 were scholars, 1 a shop-keeper, 1 a shoemaker and 1 a brewer. The general health of the patients was good, their digestive functions little impaired, and their sensibility and power of motion unaffected. In some cases they suffered only from these sensations, in others they suffered in addition from muscular twitchings and nervous pains. I have made some inquiries among the Chinese about this disease, and find that a good number of them have seen or heard of instances of it. The native physicians recommend a tonic course of treatment, and mental relaxation. In the course of time mild cases get well. One of the scholars attacked gave up his studies, recovered after one year, and went into business; and the shoemaker, after being troubled with the disorder for two years, eventually got well and married. As one form of disordered innervation, *formication* is incidentally mentioned in medical works, but I believe it is rare to see the disease so extensively developed and lasting over years. It does not seem commonly connected with any serious lesion of the nervous system, seeing that so many cases recover. In its nature it must be allied somewhat to neuralgia. In some cases it may arise from rheumatic irritation, either in the membranes or substance of the cerebro-spinal centres, by which the nerves become so affected as to lose their ordinary power of resisting atmospheric influence. Time, and whatever promotes general nutrition, mental health and relaxation, seem to be the best cure. As to medicines, I am ignorant of any at all reliable, including bromide and iodide of potassium on the one hand, and strychnine, iron and phosphates on the other.

Typhoid Fever.—During a period of more than 10 years I have seen only two cases among foreigners in Canton, one of which occurred last winter. I am not in a position to state whether or not this fever exists among the natives, or to what extent. If foreigners here are sometimes attacked by it, there is no reason to suppose that the Chinese are altogether exempt, but hitherto foreign physicians have not been afforded sufficient opportunities of seeing the fevers of the Chinese to enable them to ascertain by personal observation the rare varieties that exist among them. The natives have no faith in the skill of

foreign physicians in the cure of fever, and when taken with it they do not send for them, nor do they come to the hospital to be treated as in-door patients. The fevers seen among the out-patients are generally intermittents. From native books and physicians we can gather no distinct idea of such a disease as typhoid fever, which can only be known by the personal observation of members of the profession accustomed to its phenomena. These difficulties, which I have no reason to suppose exist more in Canton than in any other port in China, disqualify a physician from pronouncing on the presence or absence of the disease, or the exact extent to which it prevails; but they do not debar him from observing it occasionally if it is at all prevalent. With regard to myself, I can only say that, having resided long in Canton, I have had considerable opportunities of seeing Chinese fevers and many cases of remittent among them, but I do not recollect to have seen one distinct case of typhoid. It may therefore be safely affirmed that this disease is not at all prevalent, although we should expect a different state of things, as the causes that are usually supposed to produce typhoid fever are in full operation. Since the sewage question has been so much in agitation in connexion with this fever, it may be well to mention that in Canton large numbers of the native population are daily using water and inhaling air charged with the impurities of human excreta, apparently with utter impunity. River water is greatly used wherever it can be obtained, but that used by the crowded boat population along the different jetties is extremely filthy, and must be largely contaminated with human and other impurities. Although comparatively pure water can be easily obtained in the middle of the river, or a little farther from the jetties, the sampan people prefer to get it by the side of their own boats, simply because they receive no harm by the practice. They do not suffer from diarrhœa and fever more than others, but rather less. The water they use moreover bears no comparison with the filthiness of the different creeks that ramify into different parts of the city. I will, as an illustration, instance one creek which has been under my observation for some years. This creek, called San-t'sung, is not far from the foreign settlement; it is comparatively narrow and crowded with boats; on both sides of it are innumerable houses, chiefly brothels; the alvine dejections and other impurities of thousands of inhabitants along it are daily discharged into the stream; yet the water, too dirty even for washing, is daily used for culinary purposes, without being filtered or precipitated with alum, as is done in Shanghai. Here we should expect the prevalence of such diseases as typhoid fever and diarrhœa occurring often enough to excite attention; but I have been told by persons who have good opportunities of knowing these people, that they are not more subject to fevers and other diseases than others, and that this impunity is one of the reasons for their continuance in the use of such water. A detailed examination of this creek, and the disgusting habits of the inhabitants, would almost unsettle one's idea of the connexion between typhoid fever and polluted water. In the south of China, it is only in Canton that water of such a filthy character is so much used.

Chinese Prisons.—In October last I had occasion to visit a Chinese prison in this city, to ascertain the condition of four Chinese prisoners. The state of things that met my eyes spoke ill for the humanity of those who were responsible for their management. In that part of the prison called the Wee-ki, which I visited, the prisoners were kept in separate enclosures inside the building, each in charge of a number of men. I saw as many as 30 or 40 confined in spaces of not more than 15 to 20 feet square, surrounded partly by posts with inter-spaces for the admission of air. The men were crowded together like herds of sheep, the very pictures of filth, rags and misery, and the stench that issued from these dens was insufferable. Of the four prisoners, one was dying of remittent fever, and another of dropsy and diarrhœa. I learned that fever was very rife, but that some of the old prisoners live and thrive while the new comers, unaccustomed to the poisoned atmosphere, often die.

E.—Drs. Müller and Manson's Report on the Health of Amoy for the half year ended 31st March, 1872.

The past winter, like the preceding summer, was the coldest experienced for many years in Amoy. Ice, hitherto known to the inhabitants by hearsay only, was actually seen for three or four mornings in the middle of December. European flowers and vegetables, which ordinarily thrive well during the winter months, were nipped and had their growth retarded by the frost, and the sugar-cane growing on the neighbouring mainland is also said to have suffered from the same cause. The accompanying table of temperatures does not give a correct idea of the degree of cold experienced, as the instruments were not exposed outside, but were hung in a room frequently warmed by a fire; we give it however, hoping it may be of some service, as indicating correctly the maximum range of the thermometer and the ordinary in-door temperature during the season.

Table of Temperatures from 1st October 1871, to 31st March 1872.

Month.	Max.	Average Max.	Min.	Average Min.	Mean.	Days of Rainfall.
October,	86°	78.4°	70°	74.0°	76.2°	4
November,	76°	68.5°	56°	63.7°	65.5°	5
December,	68°	60.4°	39°	54.3°	57.3°	2
January,	66°	58.0°	48°	52.7°	55.3°	3
February,	61°	56.9°	45°	50.0°	53.4°	3
March,	72°	63.6°	49°	57.8°	60.7°	7

Generally speaking our winter climate would compare favourably with that of the most popular health resorts on the Mediterranean. The prevailing high winds are possibly a drawback, and they are especially troublesome at the beginning of the monsoon when the temperature is still high. Then the sudden outburst of a north-easter may cause a rapid fall in the thermometer and, catching one unprepared for cold weather and still in summer dress, give rise to a chill apt to induce in those predisposed a congestion of the liver, or a catarrh, or to reawaken an old ague. The monsoon once fairly established, however, the temperature becomes more equable, rain seldom falls, the sky is clear and the air very dry and bracing. The N. E. monsoon may be said to blow from the beginning of October to the middle of April. Its strength is spent by that time, although we have northerly winds prevailing up to the beginning of June.

Malarious diseases, though they do occur, are of much less frequency than during the summer. As the cold is never intense or even unpleasantly felt by a healthy European, exercise may be freely taken, and coughs and colds avoided with ordinary care. Acute disease of the respiratory organs is extremely rare; pneumonia and severe bronchitis are almost unknown among resident Europeans. Poitrinaires are common here as elsewhere, but they can live during the winter months in comfort with little trouble and few precautions.

The general health of the community did not suffer by the unusual cold of the past winter, but, on the contrary, we believe was rather above the average. A few very mild cases of catarrh occurred amongst the children who never before in their lives had experienced cold so severe. A trivial epidemic of mumps prevailed amongst them during January and February and may have been partly induced by the severity of the winter. One or two adults were also attacked. The same disease was common at the time amongst the Chinese, as it usually is about the beginning of the year.

Two deaths happened amongst the residents, one from apoplexy and hemiplegia, the other from aneurism of the aorta.

The subject of the aneurism had for several years been labouring under albuminuria and disease of the kidneys; he had lived in China for many years, gone through a great deal of hardship, and was well advanced in life. Symptoms of aneurism did not show themselves until about the middle of last summer. At first, attacks of dyspnœa happened every few weeks, coming on usually on his getting out of bed, and lasting for three or four hours; he also complained of breathlessness in ascending a hill or stair. Gradually the attacks of dyspnœa became more frequent, more severe in character and lasting longer, and for a week or ten days before his death confined the patient to bed. Death occurred suddenly during one of these paroxysms from profuse hæmoptysis. A postmortem examination revealed an aneurism of the back part of the transverse aorta, about the size of a small orange, pressing on the recurrent laryngeal nerve, and opening into the trachea by a transverse slit half an inch in length. Both kidneys were extensively diseased, and the arteries were everywhere more or less atheromatous.

The subject of apoplexy was a Hindoo. His body was not opened.

From the 1st of October to the 31st of March inclusive, there entered this port 123 sailing vessels, with crews consisting of 901 Europeans, 294 Malays and 213 Chinamen, giving an average of 11.4 as the crew of each vessel. The total number of days these were under observation was 2,000, giving an average stay of little more than 16 days to each vessel. The total number of cases treated was 162, of which 73 were sick on arrival, leaving 89 cases of sickness acquired in port.

As may be seen from the annexed list, by far the greatest contingent is furnished by enthetic diseases, intermittent fevers and diarrhœa coming next. The rest of the cases were principally of a very trifling character.

Two fatal cases occurred among the floating population, one from typhoid fever, the other from softening of the brain and paralysis.

The fatal case of typhoid fever is deserving of some notice. The patient, second mate in a French brig, arrived here, as near as we could judge, in the first week of the disease. The ship had sailed from Yokohama, viâ Chefoo, about 18 days before. The patient had all the symptoms of typhoid fever well marked, the characteristic diarrhœa, gurgling over the cæcum, a pulse of 110–124, with a temperature of 104°. When admitted we also observed a few rose coloured spots on the abdomen. The pulse and temperature were lowered by six baths of a temperature of about 80° gradually cooled down to 70°. In the course of the first 3 days after admission the pulse fell to 80–90, and the temperature to 98°–100°. From this time the disease ran a mild course, the patient taking nourishment very fairly, until about the 21st day of the fever, when bronchial symptoms, which in a very trifling degree had existed for about a week before, became suddenly aggravated to intense dyspnœa, the pulse rose rapidly to 124, and the temperature to nearly 105°. Food and stimulants could be administered only with great difficulty. The pulse, hitherto of good volume and strength, began to fail, the lung congestion became more pronounced, and our patient sank within 24 hours after the rise of temperature to over 100°, on, as near as we could judge, the 22nd day of the fever. Within the last four years we have treated eight cases of typhoid fever in Amoy, all imported in ships coming from Japan. All were well marked cases of the disease. With the exception just recorded none of them proved fatal.

The subject of softening of the brain was attacked in bed during the night by hemiplegia and speechlessness. The speechlessness gradually passed into insensibility, the hemiplegic side became rigid, paralysis extended to the opposite side, respiration became involved, the lungs congested, and in about 5 days from the commencement of the hemiplegia the patient died comatose. For some months he had complained occasionally of abnormal sensations in the head, and transient fits of faintness. On opening the head the pia mater was found very much congested, and over the anterior, outer and under part of the anterior lobe of one hemisphere was an effusion of blood under the arachnoid. This effusion was best marked in and near the Fissure of Sylvius, but nowhere had it the characters of a clot. The basilar artery was plugged over the Pons Varolii by an old and very firm thrombus about half an inch in length. The interior of the Pons was in a state of white softening, quite milky and diffluent, and easily washed away by a very gentle stream of water. The heart and blood vessels were healthy.

List of Cases of Disease occurring among the floating population from 1st October, 1871 to 31st March, 1872.

1.—*Miasmatic Diseases.*
- 3 cases of febricula.
- 16 „ „ intermittent fever.
- 1 „ „ malarious cachexia.
- 1 „ „ *typhoid fever (fatal).*

2.—*Enthetic Diseases.*
- 37 cases of gonorrhœa.
- 10 „ „ primary venereal sore.
- 22 „ „ constitutional syphilis.

3.—*Diseases of the Digestive Organs.*
- 11 cases of diarrhœa.
- 1 „ „ dysentery.
- 3 „ „ tonsillitis.
- 1 „ „ dyspepsia.
- 1 „ „ gastric catarrh.
- 1 „ „ melæna.
- 1 „ „ colic from passage of gall stone.

4.—*Diseases of the Circulatory and Respiratory Organs.*
- 1 case of phthisis.
- 1 „ „ bronchitis.

5.—*Diathetic Diseases.*
- 1 case of acute rheumatism.
- 1 „ „ subacute rheumatism.

6.—*Diseases of the Generative Organs.*
- 1 case of stricture of urethra.
- 1 „ „ paraphymosis.
- 1 „ „ secondary orchitis.

7.—*Diseases of the Integuments.*
- 1 case of severe sunburn.
- 6 „ „ boils.
- 2 „ „ ulcer of the leg.
- 1 „ „ *urticaria.*
- 1 „ „ chloasma.

8.—*Diseases of the Eye.*
- 4 cases of conjunctivitis.

9.—*Accidents.*
- 6 cases of bruise.
- 4 „ „ sprain.
- 1 „ „ fractured finger.
- 1 „ „ „ rib.
- 1 „ „ gunshot wound.
- 2 „ „ incised wound.
- 1 „ „ dog bite.

10.—*Other Diseases.*
- 1 case of hemiplegia (Japanese).
- 1 „ „ embolism and softening of brain (fatal).
- 1 „ „ *intercostal neuralgia.*
- 2 „ „ periostitis.
- 1 „ „ synovitis.
- 2 „ „ whitlow.
- 1 „ „ inflammation of external ear.
- 1 „ „ caries of bones of foot.
- 1 „ „ sympathetic bubo.

Bouenemia tropica, elephantiasis Arabum, or elephantiasis, is a disease often met with in this part of China. Most frequently it occurs in the legs, but very often we find it attacking the scrotum or scrotum and legs, while sometimes the characteristic swelling appears alternately in the scrotum and legs of the same subject. We have never seen a case in which any other part of the body was affected.

Our ideas of the pathology of the disease accord with those generally accepted, namely that an affection of the lymphatics, excited by malarial influences, produces an inflammation of these vessels, which, by its resulting effusion and consequent constriction obstructs their circulation and the return of lymph and those waste products of tissue which are usually absorbed by them. These unabsorbed matters accumulating in the areolar tissue of the affected parts, produce the characteristic swelling and symptoms of the disease, while the enlarged lymphatic glands and periodical accessions of inflammation in them, accompained with malarial fever, indicate its pathology.

We have never, or very seldom, observed enlargement of the spleen co-existing with this disease, although ague and malarial fever are the usual accompaniments of its development, and its ostensible exciting cause. On this account we are inclined to look upon the affection of the legs or scrotum, as, in some way, vicarious of the enlargement of the spleen, the common and recognised consequence of ague and even of residence in a malarious atmosphere. Occasionally we meet cases in which ague has not been the first symptom of the outbreak of the disease, nor perhaps during its progress has there been any ague, acute inflammation of the lymphatics or rapid and painful swelling of the affected parts. Such cases at first sight

might appear to militate against the hypothesis we have expressed, but they may receive an explanation similar to that applicable to those instances of enlargement of the spleen, neither accompanied nor preceded by ague, but depending on malarious cachexia, the result of life from childhood in a malarious atmosphere, and descent from parents long the subjects of malarious disease. Both diseases have the same origin, and both present the same variations in development and progress.

The disease, as seen in Amoy, agrees with the description found in the standard authorities. We have nothing new to add on this subject, but will confine our remarks to treatment and special points bearing on this.

Elephantiasis of the legs is essentially a chronic disease, in most instances accompanied by periodical acute exacerbations. Accordingly, to relieve or remove it treatment must extend over many months, and should be directed to the prevention of the acute attacks and the removal of their effects. Most good can be done during the subsidence of one of these acute attacks, when treatment should be very energetic. It is seldom that we meet a Chinaman with sufficient faith in our remedies to induce him to submit to a long course of drugging. Seeing the hopelessness of the undertaking, we generally declare our inability to benefit those cases in which the disease has existed for many years, where the unabsorbed and effused matters have solidified into an almost horny hardness, and the skin has grown thick and glabrous. More recent cases, however, we undertake with some hope of at least benefitting, if not of curing. Our plan is if possible to select the few days after the subsidence of fever and inflammation for the commencement of the treatment, to put a blister over the enlarged inguinal glands, rub iodine ointment into the swollen leg, and apply a bandage very evenly and firmly over this, while at the same time quinine and iron with iodide of potassium are given internally, and an improved diet recommended. Perseverance in this plan of treatment is not unfrequently rewarded with great diminution of the swelling, and increase of comfort to the patient. Blistering over the enlarged glands is a most efficacious part of the treatment, and should always be tried.

Ligature of the femoral artery has been performed, and is recommended by some authorities, but the account of the result of this rather serious operation are so contradictory, and the principle on which it is based so utterly at variance with our ideas of the true pathology of the disease, that we have never felt justified in performing or recommending it. Were the disease a true hypertrophy, we could understand how such a proceeding could benefit, but it is not, it is only an hypertrophy as far as bulk is concerned. Nor is it a disease of the blood vessels, and, to our mind, an increased and improved circulation is more to be desired than an arrested or retarded one. Besides entertaining these objections to the principle of the operation in such cases, we very much fear that if frequently performed in constitutions impregnated with malaria, gangrene would be a common consequence, a disease much more serious and inconvenient in its results than elephantiasis of the leg.

Fortunately we are more able to cope successfully with the disease when it attacks the scrotum and skin of the penis. In this case it may attain an enormous development and yet complete relief may be given. Medical treatment, further than as a preparative, is disappointing, and is only a waste of time, for by surgical operation the disease may be thoroughly removed without mutilation of the important parts involved, and with very little risk to the patient. Two operations have been recommended and performed:—

1st.—Ablation of the whole tumour, testicles and penis included.

2nd.—Ablation of the whole of the disease, the testicles and penis being preserved.

1.—Considering the difficulty of dissecting out the penis and testicles, and the danger from hæmorrhage during this tedious process, some have recommended complete amputation of scrotum, penis and testicles, by a single rapid incision, carried directly through the neck of the tumour. The great names of Sir Astley Cooper and Liston are associated with this proceeding, but we regard it as a most dangerous one, sure to be followed by copious, sudden and therefore dangerous hæmorrhage. A sudden escape of twenty ounces of blood is much more to be feared than the gradual loss of double that quantity. Whoever has had the misfortune to slip the spermatic cord and have it drawn up into the abdomen, in excision of the testicle, will hesitate before he encounters the bleeding from two spermatic arteries and a dorsalis penis superadded to the blood supply of a fifty pound tumour. In such an operation, the chance of the spermatic

cords being drawn up into the abdomen is very great; for the testicles, adhering to the tumour, are drawn down by its weight, and the cords being thus put on the stretch, parts normally inside the inguinal canals are presented to the knife, and the hypertrophied cremasters are irritated to contraction. That there is great aptitude for contraction in these elongated cords we have seen in the retraction of half a dozen inches of one during the progress of an operation in which the testicles were preserved. Besides the danger from bleeding, the shock from this operation must be very serious, and much greater than in that which preserves the penis and testicles. The resulting mutilation is also a very serious drawback, and is likely to be followed by contraction of the orifice of the cut urethra. For these reasons, namely the danger from sudden hæmorrhage, the danger from extensive hæmorrhage, the danger from nervous shock, the unnecessary mutilation, and the liability to after contraction of the urethra, this operation should be discarded in every case, no matter how large the tumour may be.

2.—The other operation recommended preserves the testicles and penis, its performance is accompanied by no great risk, and its results are eminently satisfactory. We practice a modification of the usual plan of this operation, and the results are so satisfactory that we are induced to give details of our proceedings, many of which are not adopted generally, or at least are not alluded to in text books, but the observance of which contributes very materially to the immediate success of the operation, and to the subsequent rapid convalescence of the patient.

The principal danger arises undoubtedly from hæmorrhage, and accordingly all our proceedings should be taken with a view of preventing this, as much as is compatible with the proper preservation of important parts. Some idea of the character and amount of the bleeding to be anticipated may be obtained from the nature of the tumour. If this is warm, small and growing, and if the dartos contracts strongly and readily on irritation of the skin, we may expect considerable arterial bleeding; but if on the contrary the tumour is large, cold or ulcerated in parts, and the dartos slow to contract, or contracting but feebly, in other words if the tumour shows signs of degeneration, the bleeding may be almost entirely venous. A consideration of this should affect the nature of our proceedings; first, with regard to the preliminary application of a ligature to the neck of the tumour, and second, with regard to the position of the patient's body during the operation.

Dr. FAYRER of Calcutta recommends the application of a strong cord to the neck of the tumour, the ends of the ligature passing through an iron ring and being drawn tight by two assistants standing well away from the operator and on opposite sides of the patient. CURLING recommends transfixing the neck of the tumour with long needles carrying stout strong ligatures which are then drawn through and tied tightly round the various included segments. Both of these plans, or modifications of them, we have tried and abandoned. The latter is difficult of application, inefficient when applied, and dangerous to the integrity of the spermatic cords, testicles and penis; and the former can have little influence in restraining hæmorrhage even if it does not encourage it, for it is impossible that pressure sufficient to arrest the circulation in the centre of the neck of the tumour, can be thus applied without damaging structures intended to be preserved. If this central circulation is not arrested, a ligature is sure to aggravate instead of to restrain the bleeding during the preliminary dissection, for the bleeding then is principally venous, and would be encouraged by constriction of the veins on the cardiac side of the wound. Again, during the final steps of the operation a ligature like this can never be of the slightest use, for as soon as a cut is made in its neighbourhood, as the last few cuts must be, the cut surface springs back below the cord, and bleeds as vigorously as if no ligature were near it. Thus while it is during these last cuts that bleeding is most dangerous, it is just then that the ligature is of no use. For these reasons we have abandoned it, and trust to other means of avoiding dangerous hæmorrhage. The only case in which we should feel tempted to try Dr. FAYRER'S plan would be in amputation of a small, growing tumour in which high temperature and sensibility should lead us to expect much arterial bleeding even during the preliminary dissections, or in cases where the disease should involve the whole of the pendulous mass, rendering it impossible to obtain lateral flaps to cover the testes, and where consequently it would be no great object to avoid bruising the integuments.

Here we may remark that although the proportion of arterial to venous hæmorrhage varies in every case, yet by far the larger proportion of blood lost is from the veins, and a very large and serious

part of this from the cardiac end by regurgitation from the vessels of the trunk. Now this can in great measure be prevented by making the cut surface the highest part of the body, that is by lowering the trunk and legs, and thus counteracting completely the effects of gravitation in promoting the regurgitation. Such a position has also the advantage of to some extent diminishing the risk of syncope, a common consequence of profuse bleeding, and also of the entrance of air into the vessels, a decided possibility in such operations.

For some time before and after operation, the patient should be well fed, and take quinine and iron, every effort being made to relieve the anæmic and cachectic condition he is sure to labour under.

The operation we practice is conducted as follows:—

An operating table or bed, capable of being lowered a foot or more at one end, is placed in a suitable light, the buttocks of the patient resting quite on the edge of the high end. To the centre of this a board of triangular shape with the corners rounded off, is attached at its apex by a strong hook and eye, the hook in the board, the eye in the table. The board should be somewhat longer than the tumour, and for convenience in moving it should have a handle at the broad end. The object of this arrangement is to give support to the tumour during the operation, to allow it to be easily moved in any direction to suit the convenience of the operator, and to prevent dragging down of the deeper structures of the perineum, matters of the utmost importance in facilitating the rapid performance of the last, most bloody and dangerous steps of the operation. When the tumour is of so small a size as to be easily supported and moved about in the grasp of the hand, the supporting board may be dispensed with.

To empty it of blood as much as possible, the scrotum, for an hour or two before commencing, should be firmly bandaged to the supporting board, and elevated above the level of the rest of the body by a rope attached to the handle. Another table is placed for the legs to rest on until the time of operation arrives.

During some days previous, while the patient is undergoing the necessary preparatory treatment, the surgeon should endeavour to ascertain exactly the position of the testicles. A good plan is to set the patient to hunt for them himself. Also the possibility of hernia should not be overlooked.

The patient having been brought under the influence of chloroform, the table supporting his legs is to be taken away, the legs widely separated, lowered and committed to assistants, the bandages removed, and the tumour placed in a convenient position. If the supporting board is required it should be entrusted to a seasoned assistant who will keep well out of the way and be indifferent to a flow of blood.

For clearness of description we will divide the operation into six stages:—

1. The dissection for the testicles.
2. The dissection for the penis.
3. The formation of two lateral flaps.
4. The fixing of the tumour to the supporting board, the dissection up of the spermatic cords, and the uniting of the upper extremities of the incisions for testicles and penis by a transverse incision.
5. The ablation of the tumour.
6. Ligature of vessels, stitching and dressing wound.

1. *The dissection for the testicles.*

If the position of the testicles has been ascertained with precision, an incision not more than four inches long should be made near one of them in a direction parallel to the assumed course of the cord; but should the exact position of the testicles not be known, the cut should be made about two inches from the orifice of the urethra, the centre of it being opposite the orifice. This incision is then to be extended through the hard outer rind of the mass, until the soft semi-gelatinous areolar tissue of the centre is reached, usually about an inch or an inch and a half from the surface. Should any artery or large vein bleed, which is by no means always the case, it must be tied at once. The incision should be big enough to admit the hand, but no bigger. The knife is now laid aside, the hand is thrust into the wound, and by a process of tearing the testicle is searched for. This must be done, not in a haphazard, but in a systematic manner, first backwards,

then on either side and, failing that, upwards. If done in a random way the search may be long and tedious. Any band or firmer tissue which cannot be torn, and which resists the onward progress of the hand, should be nicked with a scissors or knife and then torn, but great care should be taken to avoid the cutting of veins or arteries deep in the wound. As a rule, the search thus conducted is not a long one, either the testicle itself being quickly found or the cord leading to it which may be followed up. The testicle is usually enclosed in an undefined bag firmer than the tissues surrounding it and than that on its inner surface. A process from this bag is found extending downwards towards the bottom of the tumour. A vulsellum should now be applied to this process, clear of the gland, and the bag dragged up. A nick is made with the knife in this, and through the opening a finger is introduced and the sack torn open, when the tunica vaginalis and testicle are easily enucleated as far as the origin of the cord, a few touches of the knife being perhaps required to liberate the epididymis. This accomplished, the testicle is again replaced, and the wound firmly stuffed with cotton. The opposite side is then treated in the same way. It is important to observe that during this dissection the knife should be used as little as possible, and the external wound made as small as possible. The greater part of the dissection should be made by tearing. The wound must be well stuffed with cotton after the testicle is replaced. With these precautions, seldom more than four or five ounces of blood are lost, and sometimes the hæmorrhage from both wounds may not exceed two or three ounces.

2. *The dissection for the penis.*

The finger or a director is next inserted into the orifice of the prepuce, a sharp pointed bistoury is pushed in and the superjacent tissues are divided directly upwards in the middle line until the glans penis is discovered. This incision is then extended as high up as the morbid integuments reach. The glans, which is very slippery and difficult to keep between the fingers, is then drawn aside by the clean fingers of an assistant or by a clove-hitch passed round the sulcus, while the mucous membrane of the prepuce is seized with a forceps and cut all round quite down to the body of the penis. Unless the whole of the mucous membrane is removed, the remains are apt to become œdematous and swollen on cicatrisation of the penis, and present an unsightly appearance. When this has been removed and the frænum divided, the penis can be dissected up (care being taken to avoid the dorsal artery and urethra) to the extent required. Any vessel spouting should be tied, but if unnecessary cutting away from the middle line has been avoided no large veins or arteries are likely to be opened.

3. *The formation of two lateral flaps.*

For the proper understanding of this step it is necessary to premise that the neck of the tumour is not round or oval as one might at first suppose, but that at its narrowest section it is rather square-shaped. The surfaces opposed to the thighs are covered with soft, healthy skin, borrowed by the dragging and growth of the tumour, and extending as far as the anterior surface in front and the posterior behind, and downwards for four or five inches. A reference to the rough diagram [2] will give a better idea of this. The whole of this healthy integument should be included in the lateral flap by a semilunar incision sweeping round just clear of the disease from the anterior to the posterior angle, the concavity looking upwards. This incision made, the flap is to be dissected well up and any considerable vessel tied. A corresponding flap is to be then made on the other side, and the posterior cornua of both united by a shallow transverse incision.

4.—*The fixing of the tumour to the supporting board, the dissection up of the spermatic cords, and the uniting of the upper ends of the incisions for testicles and penis.*

Unless the tumour is a very large one, the formation of the lateral flaps is perhaps more easily and rapidly accomplished while the tumour only rests on the supporting board, and can be rolled from side to side. But when these have been completed it becomes necessary to fix the unwieldy mass firmly, so as to allow of its being rapidly and easily moved from side to side, up or down, as the exigencies of the operation demand. It is now, especially, that the advantage of the supporting board become manifest, for the last stages of the operation must be rapidly performed, and the incisions made with precision, to avoid wounding

the penis, the cords or the deep structures of the perineum. With a mass weighing forty or fifty pounds, moved about in an uncertain and unmethodical way by two or more excited assistants, this is very difficult to do, and some device such as the supporting board we recommend, is a great advantage.

A strong cord, both extremities of which carry a long needle, having been provided, the cotton in the testicle-incisions is removed and through the bottom of the inferior extremities of these the needles are thrust, and brought out through holes made for the purpose in the supporting board; the ends of the cord are then drawn through, brought round the edge of the board, tied over the tumour, and for additional security drawn tight and firmly wound round the handle. When this has been effectually accomplished, the tumour can easily be moved in any direction by the handle held by the surgeon or an assistant, and the operation proceeds. The incisions for the testicles are now to be rapidly extended upwards as high as that for the penis, with which they are to be united by a transverse cut after the cords have been dissected up.

5.—*Ablation of the mass.*

Finally the testicles and penis being well drawn up by one assistant, the lateral flaps well drawn out by those holding the legs, the surgeon or an assistant moving the supporting board so as to accommodate the parts to the movements of the knife, the anterior extremities of the flap incisions are united with those for the cords and testicles, and the whole mass rapidly removed by a few strokes of the knife. The supporting board is then unhooked, and with the scrotum attached put aside.

6.—*Ligature of the vessels, stitching and dressing of the wound.*

The exposed surface is at once covered with a sponge firmly pressed against it. The larger arteries are taken up and tied first, then the veins, the ligatures being brought out at the lower part of the wound. The testicles are allowed to fall down, and the flaps are sewn over them with thick catgut sutures inserted well back in the flaps and not tied too tightly. The upper third of the flaps should be sewn to the margin of the transvere incisions. The resulting lines should then be ⊤ shaped, the testicles completely covered, and the raw penis protruding from the junction of the horizontal with the perpendicular line. Carbolic oil and lint are placed over the penis and lines of incision, cotton is stuffed between the thighs and the new scrotum so as to secure the apposition of the raw surfaces, and the legs are brought together and kept so by means of a few turns of a bandage round the knees.

A warm bed should be ready for the reception of the patient, and warm bottles placed round him. Stimulants, if necessary, may be freely administered until reaction sets in, and when this has occurred the patient may be said to be almost out of danger, so little is the risk from the after consequences of this apparently most dangerous operation. The transverse incision heals usually by the first intention, as also may some of the longitudinal, but generally most of the latter unite by granulation.

We have never had any secondary hæmorrhage or serious after-complication. Sometimes part of a flap may slough, but as a rule convalescence proceeds uninterruptedly, and most cases are out of bed in less than a fortnight, and quite healed in a month. Should cicatrisation of the penis proceed slowly it is much assisted by winding a strip of sticking plaster round it, while any gaping of the flaps must be counteracted by suitable support.

Complications during operation may arise from the presence of a hernia, or a hydrocele, or from difficulty in finding an atrophied testicle. These are all met in the first step of the operation, and as there is no particular hurry at this stage, can be dealt with deliberately. A hernia must be carefully dissected out, a hydrocele punctured and redundant tunica vaginalis excised, an atrophied, cystic or otherwise diseased testicle cut off, and the spermatic artery carefully ligatured. Should the patient threaten to sink from loss of blood we would not hesitate to transfuse, were suitable instruments handy, and a supply of blood obtainable.

For some time after its separation from the living body, the dartos of the tumour retains its irritability and contractile power. This may be elicited by drawing the finger nail firmly over the skin, when, after a few seconds, a slight but distinct movement is seen gradually to extend from the point of irritation,

altering the shape of the tumour in a remarkable manner. We have observed this phenomenon at least an hour after the operation was completed.

We subjoin short notes of ten consecutive cases in which the operation we have described was performed with gratifying result in all, and, with the exception of one instance, apparently at little risk to the patients. The lines of incision were the same in all, but some of the details we have described were not adopted in the earlier cases, but have grown out of the experience gained in them.*

ILLUSTRATIVE CASES.

1.—JU-SIA; aged 19; field labourer, from Tchhoan-tchhin; suffered from elephantiasis of the scrotum for five years. At first the swelling was entirely confined to the right testicle, which recovered its normal size after being affected for five months, but at the same time the skin near the left testicle was attacked, and after another month the whole scrotum swelled, and has since gradually enlarged to its present dimensions. At the commencement of the disease he had an attack of ague, and during the greater part of its existence he has been more or less liable to these attacks, the scrotum swelling with the accession *of the ague and diminishing to a smaller extent during its recession.*

A mass weighing 7½ lbs. was removed by operation, with testicles and penis preserved. Recovery was perfect, and he was able to resume work while under our observation.

2.—KHI-TAN. The scrotum removed from this man weighed 11½ lbs.; testicles and penis preserved. In consequence of slight constriction during cicatrisation of the penis, a part of the prepuce which had been overlooked during the hurry of the operation, swelled and became œdematous. With this trifling drawback the recovery was perfect, and the patient is now able to do his work with comfort, a thing he had until then been unable to do for many years.

3.—TIE-RHOAH; aged 42; a field labourer, from Namoa. Has had ague every year since he was a boy. At 14 had the chicken pox, and about the same time a large vesicle the size of a cup appeared on *the scrotum, but did not burst for a year when it discharged and healed perfectly.* At 23 *the glands in* the right groin became swollen and painful, and in a short time the leg assumed the usual appearance of elephantiasis. The distress from this was much aggravated by inflammation of the lymphatics when he had ague. When the leg was easier the testicles swelled and pained. After a time the scrotum also became involved, and as the swelling in this increased the leg gradually diminished until it resumed its normal dimensions. At 29 a lump like a stone formed in the scrotum; a Chinese doctor opened this giving vent to about three pounds of offensive pus. A yellow fluid continued exuding from the wound thus made until he was 40 years of age, when the discharge ceased. Up to this time the growth of the tumour was very gradual, notwithstanding a severe attack of ague and inflammation of the lymphatics at 34. Now, however, the swelling increased rapidly.

After a week's preparatory treatment he was operated on, and 7½ lbs. of scrotum removed. The tumour hung very low and had a narrow neck. One testicle and the penis were preserved. The left testicle *was atrophied, and was consequently excised and the cord ligatured. Recovery was perfect.*

* *Explanation of Diagrams.*

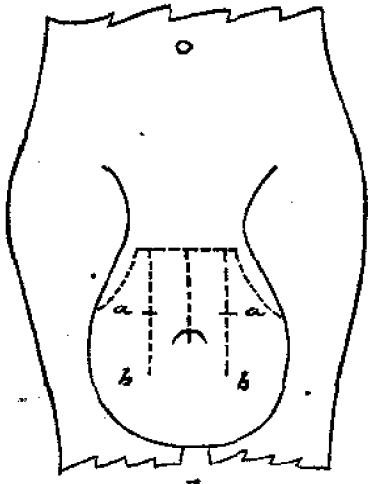
1.—Shows the lines of incision. Those for the testicles should only extend from *a* to *b* in the first stage, and be afterwards extended upwards in the dissection out of the cord.

2.—Represents a section of the neck of the tumour at its narrowest part; diseased skin in front and behind, but healthy integument on either side, from which the flaps should be taken.

3.—Transverse section of the tumour at the level of the testicles, showing the outer rind of dense thickened skin which must be cut through, covering the loose areolar tissue which must be torn through, the latter enclosing the testicles and tunica vaginalis in a loose bag of firmer tissue which must be nicked and torn.

4.—Represents the outline of the wound after the tumour has been removed, and the points at which the sutures should be introduced. First *a* must be joined to *a*, and *b c d* in the flap joined to *b c d* in the transverse incision, and *e f g h i j k* to corresponding points in the flaps.

5.—The lines resulting from closure of the wound; the penis hides the upper part of the perpendicular seam.



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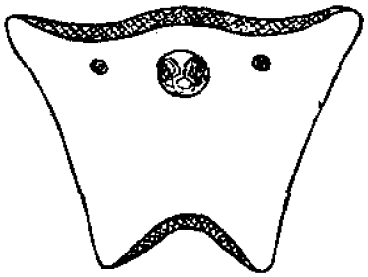

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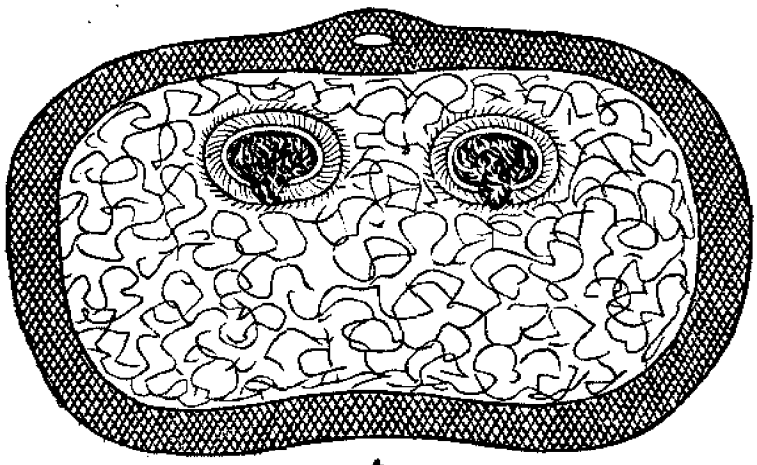

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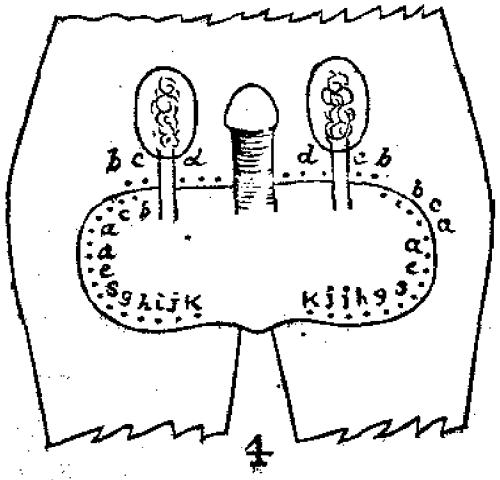

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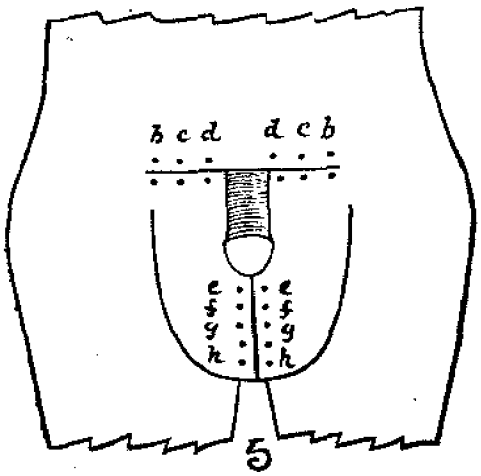

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4.—SIM-HAM; aged 43; a field labourer, from Tsau-an. Had a hydrocele for many years before the appearance of elephantiasis. Has not been troubled with ague. When 32 years of age the scrotum began, without pain or redness, gradually to enlarge. At 39 the swelling progressed more rapidly.

The tumour reaches nearly to the ankles and has a narrow neck. Patient was rather debilitated, but after 10 days feeding and tonics a tumour weighing 32 lbs. was removed. Both testicles and penis were preserved. Recovered perfectly without a bad symptom.

5.—SIM-NGAN; aged 42; a field labourer, from Thien-po. Ill 9 years. Has not been liable to ague. Says he was very fond of wine, and drank rather freely. The first appearance of anything wrong *with his scrotum was on the morning following a heavy debauch, when he woke up and found it* red, *swollen* and painful. At first the swelling somewhat subsided. From his description we are inclined to consider this primary swelling the result of a hydrocele, probably of traumatic origin. During the second year of its existence a Chinese doctor burst it and for a time the swelling was trifling, but within a year it attained its former dimensions, and then the skin of the scrotum became thickened.

During the operation a large hydrocele was opened on the left side, discharging a quantity of dirty straw coloured fluid; the corresponding testicle was found to be atrophied, and it was accordingly excised and the cord ligatured. Penis and a healthy right testicle preserved. The tumour weighed 9½ lbs. Patient made a good recovery.

6.—SIO-PHAN; aged 38; a field labourer, from Namoa, Bio-lai-sia. Ill 10 years. Previous to this was very healthy, but then contracted an ague which recurs every year. On every recurrence of the ague the scrotum becomes red, painful and swollen, the swelling after a time subsiding a little but the tumour adds to its size with every fresh attack.

After 8 days preparation he was operated on, and a mass weighing 24 lbs. was removed. Penis and both testicles preserved. Patient made an excellent recovery.

7.—SIM-TSUI-KAE; aged 49; a field labourer, native of Tchhau-an. Since he was a little over 30 years of age has been constantly more or less liable to ague, the attacks of which always leave him very anæmic and weak. Elephantiasis began first in the right leg, the glands in the inguinal region swelling to the size of a fowl's egg. This leg gradually increased in size during 4 or 5 years, when the other leg was attacked by the same disease, after which the right leg diminished slightly in size. In 3 years more, during an attack of ague, pain, redness and swelling appeared in the scrotum; these have been renewed frequently during 8 years. Sometimes the swelling is very great, at other times, as at present, it is comparatively trifling. He frequently allays the urgency of the symptoms by pricking the legs and scrotum, allowing the escape of *a thin yellow fluid, and proportionate diminution of the tumour.*

Two or three pounds of scrotum were removed by operation. The bleeding was very great considering the small size of the tumour. Both testicles and penis preserved. Recovery excellent.

8.—SANG; aged 38; a field labourer, from Thien-po. Disease began 12 years ago by an attack of ague lasting for 20 days, followed by inflammation of the scrotum and the formation of two abscesses *the size of duck's eggs; these discharged and after 10 days healed. During the 4 following years the* scrotum gradually enlarged to the size of a pumelo, and after this he had yearly attacks of ague and a more rapid increase of scrotal disease. The tumour is now very large, it descends only to the knees but has an unusually thick neck and a very broad attachment. Posteriorly it extends over a considerable part of the gluteal region, the anus (which is not itself involved) appearing at the bottom of a deep fissure separating the back of the mass into two lateral lobes; anteriorly it extends well up over the pubis, involving a good part of the skin over the region of the bladder. Low down in front of the tumour is a fistulous looking ulcer, and around this the mass feels cold and threatens gangrene.

A mass weighing 51 lbs. was removed. In consequence of the extreme breadth of the attachments, enough healthy skin could not be obtained to cover all the raw surface exposed by the operation. A triangular wound, about 6 inches broad at its base, was left to granulate over the pubis, the testicles being completely covered by lateral flaps. During the operation a considerable quantity of blood, principally

venous, was lost, but no very large artery was opened. Both testicles were quite healthy, the right situated high up in the neck, and the left nearer the base of the tumour.

Just as the mass was being removed the patient, who for some time had been under the influence of chloroform, suddenly ceased to breathe, and his radial artery could not be felt. The faint did not last long. He vomited a great deal after the operation, but rapidly became stronger, took his food heartily, and in 12 days was out of bed, the enormous wounds steadily contracting and healing.

9.—Too-lar; aged 42; a field labourer, from Tosia. Has been very poor and miserably fed on potatoes and vegetables. Troubled often with bad rheumatism in the seat of an old bruise on his right flank. Had ague several times before the appearance of the elephantiasis. This began 6 years ago in the skin of the penis, spreading gradually to the scrotum. Three years ago had an attack of ague accompanied by inflammation of the scrotum, which until then was of no great size. At the same time the left inguinal glands and corresponding leg swelled. After this the tumour increased very rapidly; ague came with every occurrence of bad weather, and he became debilitated. With every attack of ague there was a rapid increase of the scrotal swelling.

After a course of tonics and beef, a tumour weighing 21 lbs. was removed. Both testicles and penis preserved. Recovery perfect.

10.—Ong-an; aged 35; a field labourer, from Tchhoan tchhia. Ill 5 years. Married at 29 and enjoyed good health until 31 years of age when he had an attack of ague, and coincidently with this, a swelling the size of a marble appeared a short distance below the umbilicus. This after a time subsided, but a swelling of the inguinal glands took its place. Every year he has ague, and during 5 years the scrotum has gradually enlarged to its present size.

A 10 lbs. tumour removed. Testicles and penis preserved. Considerable arterial bleeding during the last steps of the operation. Recovery perfect.

F.—Dr. David MANSON's Report on the Health of Takow and Taiwan-foo for the half year ended 31st March, 1872.

WITH a lower temperature and a smaller rain-fall it is to be expected that in South Formosa, where *the only diseases affecting foreigners are of the malarial type, the health of the community for the winter* six months should compare favourably with that for the summer six months, and so it turns out, for, with the exception of two mild cases of ague, there were in the period under review no instances of climatic diseases to be noted. The average number of residents was 35.

The health of the crews of ships frequenting the port of Takow was also excellent. There was no instance of climatic disease acquired in port. One death from drowning occurred.

Throughout the past year the only diseases observed were a few cases of ague and two cases of remittent fever. Would the residents, or those for whom they act, take advantage of the high land in the immediate neighbourhood of Takow, and build their dwelling-houses on it instead of on the low lying ground, it is probable that the number of such cases would be even fewer.

In the recent proposal for the withdrawal of the British Consulate from Formosa one of the reasons assigned for doing so was "that the climate was most trying and unhealthy, and that it destroys the energies "and health of those sent to reside there more than any other port in China." It is impossible to conceive on what grounds such a statement was based. The statistics of the past year and the experience of former residents contradict it. The insular position of Formosa giving rise to a low temperature, and one not *subject to great variations, and the ports being situated close to the sea, combine to render the climate* one of the best in China. The highest summer temperature during the past year was 89° Fahr., and the lowest winter temparature was 50° Fahr., giving a range of 39 degrees. The nocturnal and diurnal range is very small. This ought to be a climate well suited to those labouring under disease of the lungs, and it has been observed in several cases that natives suffering from phthisis and coming from the mainland of China *have undergone a marked improvement after some months residence in South Formosa.* The *remarkably* chronic nature of phthisis as seen among the patients frequenting the Chinese Hospital at Takow also points to very favourable climatic influences.

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

MONTH.	HIGHEST.	LOWEST.	MEAN HIGHEST.	MEAN LOWEST.	DAYS OF RAIN.
October,	88°	77°	83°	80°	3
November,	83°	64°	76°	71°	17
December,	79°	50°	70°	64°	—
January,	78°	61°	71°	64°	3
February,	74°	57°	68°	62°	2
March,	80°	55°	74°	69°	2

The Rain-fall has been almost nil, these figures only representing very slight showers.

The following is a list of the diseases of *Natives* treated during the past six months:—

A.—Zymotic Diseases.

I. *Miasmatic Diseases:*—

Intermittent Fever—		
Quotidian,	71	cases.
Tertian,	40	,,
Quartan,	46	,,
Remittent Fever,	14	,,
Dysentery,	7	,,
Diarrhœa,	5	,,
Ophthalmia,	11	,,
Erysipelas,	1	,,

II. *Enthetic Diseases:*—

Gonorrhœa,	12	,,
Syphilitic Iritis,	1	,,
Stricture,	2	,,
Orchitis,	2	,,
Syphilitic Rheumatism,	5	,,
Syphilis:—		
Primary,	5	,,
Secondary,	5	,,
Tertiary,	21	,,
Syphilitic Ulcers,	9	,,

III. *Dietic Diseases:*—

Bronchocele,	3	,,

IV. *Parasitic Diseases:*—

Lumbrici,	11	,,
Scabies,	7	,,

B.—Constitutional Diseases.

I. *Diathetic Diseases:*—

Rheumatism,	47	,,
Anæmia,	15	,,
Asthma,	6	,,

II. *Tubercular Diseases:*—

Phthisis Pulmonalis,	9	,,
Scrofula,	3	,,

C.—Local Diseases.

I. *Diseases of Nervous System:*—

Hysteria,	1	,,
Epilepsy,	1	,,
Neuralgia,	5	,,
Sciatica,	1	,,

II. *Diseases of Circulatory System:*—

Valvular Disease of Heart,	2	,,

III. *Diseases of Respiratory System:*—

Chronic Bronchitis,	21	,,
Emphysema,	3	,,

IV. *Diseases of Digestive System:*—

Enlarged Spleen,	51	,,
Dyspepsia,	31	,,

C.—Local Diseases.—*Continued.*

IV. *Diseases of Digestive System.—Continued.*

Toothache,	9	cases.
Piles,	6	,,
Inguinal Hernia,	2	,,
Icterus,	2	,,
Fistula in Ano,	5	,,
Stricture of Œsophagus,	1	,,

V. *Diseases of Urinary System:*—

Stone in the Bladder,	1	,,
Bright's Disease,	4	,,
Cystitis,	3	,,
Prostatitis,	1	,,

VI. *Diseases of Generative System:*—

Spermatorrhœa,	3	,,

VII. *Diseases of Locomotive System:*—

Arthritis,	2	,,
Caries,	2	,,
Necrosis,	7	,,

VIII. *Diseases of Integumentary System:*—

Ulcer,	46	,,
Psoriasis,	5	,,
Impetigo,	2	,,
Eczema,	2	,,
Lepra,	4	,,
Abscess,	23	,,
Whitlow,	7	,,
Keloid,	3	,,
Ichthyosis,	1	,,
Elephantiasis,	2	,,

IX. *Diseases of the Eye:*—

Amaurosis,	3	,,
Cataract,	5	,,
Corneitis,	7	,,
Cornea, Conical,	7	,,
Opacity of,	15	,,
Ulcer of,	26	,,
Chronic Conjunctivitis,	53	,,
Entropium,	13	,,
Trichiasis,	12	,,
Destruction of Eye,	3	,,
Pterygium,	7	,,
Glaucoma,	2	,,
Staphyloma,	3	,,

D.—Developmental Diseases.

II. *Of Women:*—

Amenorrhœa,	5	,,

E.—Lesions from Violence.

I. *Accident,* 32 ,,

Throughout the past year the principal causes of death among natives were malarial fevers. These were most prevalent during the months of August, September, October and November, and least during the months of February and March. Most of these cases come from the flat country in the neighbourhood of Takow, a district where one would expect malaria to prevail, but a considerable number of patients suffering from intermittent and remittent fevers and splenic enlargement also come from Lambay, a small rocky island lying about 10 miles south from Takow and separated from the mainland of Formosa by about 6 miles of sea. Judging from its physical characters, Lambay Island ought to be the reverse of what is usually considered "malarious," but from what I have seen and heard malarious fevers are exceedingly prevalent there.

Among the "accidents" was the case of a man whose hand had been crushed in a sugar mill three weeks before admission to Hospital. The hand was in a most filthy condition. The jaws were firmly clenched. Amputation was performed in the middle of the forearm. Opisthotonos and spasm of the intercostal muscles coming on, the patient died 14 days after operation. Hydrate of chloral was given in large doses, producing sleep and preventing spasm and the starting of the muscles of the stump which was apt to bring on spasm of the muscles of the back and chest.

G.—Dr. W. W. Myers's Report on the Sanitary Condition of Chefoo.

The port of Chefoo (Yentai) is situated in Lat. 37° 35′ 56″ N. and Long. 121° 22′ 35″ E., lying on the same parallel with Athens, Smyrna and San Francisco, and to a great extent uniting the health bearing and restoring properties of these places, while it seems peculiarly free from any of the drawbacks existent in the climates of the similarly placed cities referred to.

On entering the harbour of Chefoo a panorama of picturesque hills is the first and most prominent feature. On closer inspection the hills are seen to take the form of an amphitheatre, commencing on the east at Knob Point and gracefully circling round towards the south, dipping on the west towards the sea, and connected by a sandy spit four or five miles in length with that bold and beautiful cluster of hills well known to mariners, and gratefully hailed by sea-sick tourists, as the "Chefoo Bluff." The formation of Chefoo bay is thus due to the bluff on the north and the sandy spit on the west, together with the shore on which the town is placed on the south.

Jutting into the bay, and separating the harbour from the bight so well known to bathers, is a conical hill surmounted by a signal station, and having on its sheltered slopes several pretty bungalows, while under its shadow nestle the various residences making up the foreign settlement of Yentai. This, backed by the gorgeously cultivated plateau extending to the base of the hills, forms a vista at once pleasing to the eye and suggestive of health to the spectator.

The climate of Chefoo, while decidedly mild and equable, stands in marked contrast to that possessed by most of the other ports in China by reason of that moderate dryness which is so essential a constituent of a bracing atmosphere. That this desideratum attains the happy medium most useful, a glance at the meteorological tables will show. Again, ozone, that all important factor in the production of a healthy climate, appears to exist in a proportion which brings the atmosphere of Chefoo as nearly as can be attained to the standard of perfection. Though in sufficient quantity to be preservative of health, it is not in that excess which at other places of sanitary resort has been found to injuriously stimulate persons of weakly constitution.

The local meteorological records must necessarily prove a very interesting portion of a Report on a place, the chief attractions of which lie in the fact of its being the refuge for persons flying from the deleterious or disagreeable effects of excessive heat. The temperature of Chefoo is by no means excessive in summer, not surpassing in height that which may be encountered at the most favoured watering places of Europe. Last summer (a season totally unprecedented in the memory of the oldest resident) would appear to contradict this assertion; but if reference be made to the thermometrical records of past years, or even if consideration be given to the frequent refreshing intervals of greatly diminished temperature varying the unwonted warmth experienced last year, one may safely hold that, taken at its usual, Chefoo offers opportunities for escape from tropical disadvantages which residents south of Shantung Promontory do not possess. Indeed I fancy it is no exaggeration to say that but few places equal and none surpass Chefoo in the privilege of possessing a temperature so happily adjusted by surrounding local influences.

The winter is severe but, as I shall hereafter show, this does not appear to affect the healthy or to injure the delicate to an appreciable extent.

ABSTRACT of Observations of the Thermometer, Barometer and Rain Guage, taken at a height of about 130 feet above the sea level.

MONTHS.	THERMOMETER (FAHR.)				BAROMETER.	RAIN GUAGE.
	MEAN MAX.	MEAN MIN.	WET BULB.	DRY BULB.	MEAN.	INCHES.
1871.						
April,	58.9°	45.5°	49.1°	54.3°	29.85	1.45
May,	71.6°	54.5°	57.4°	64.8°	29.76	0.30
June,	75.6°	68.0°	—	—	—	—
July, 9 A.M.,	80.8°	73.3°	76.8°	79.1°	29.68	9.98
July, 10 P.M.,	85.6°	75.8°	75.4°	76.7°	29.68	
August,	79.1°	70.8°	69.7°	75.1°	29.68	2.27
September,	73.5°	61.2°	62.2°	67.6°	30.03	3.30
October,	67.8°	54.1°	54.2°	61.8°	30.07	0.24
November,	50.2°	38.0°	40.6°	44.5°	30.11	0.90
December,	34.3°	24.4°	31.0°	31.0°	30.22	snow.
1872.						
January,	28.8°	19.9°	24.5°	24.7°	30.23	snow.
February,	34.0°	24.1°	28.5°	29.0°	30.28	snow.
March,	43.7°	34.6°	36.9°	40.9°	30.01	—

Observations taken daily at 9 A.M., and in July at 10 P.M. also.

On two days (one in June and the other in July) the thermometer stood once during the day at 101° Fahr.

The general health of Chefoo has during the past year been most favourable, both with reference to the constant residents and to the visitors coming here in pursuit of either business or pleasure. I subjoin a table of deaths which occurred during the past twelve months on shore. I have omitted those which happened afloat, as in every instance decease terminated illnesses contracted elsewhere, and succeeded arrival at too short an interval to admit of Chefoo bearing the responsibility. I may mention, however, that the actual number of persons who, entering our waters moribund, were interred here was 5, of whom 3 were seamen belonging to ships of war, and of these 2 died of constitutional diseases.

TABLE of Deaths among foreigners at Chefoo for the year April to March, 1871-72.

SEX.	DISEASE.	CASES.	REMARKS.
Male,	*Delirium Ebriositatis*,	1	Chronic Dypsomaniac.
,,	Enthetic Disease,	1	Adult.
,,	Erysipelas,	1	,,
,,	Tuberculosis (abdominal),	2	Infants.
,,	Cardiac Disease,	1	Adult.
,,	Spina bifida,	1	Infant (2 days old.)
	Total,	7	4 Adults and 3 Infants.

An analysis of the table will show that with one exception climate had no influence either direct or indirect in causing death. The case of cardiac disease occurred in a man from a ship just arrived at the port, whose death took place almost immediately on landing, and a few minutes after I had been called to see him. The only case the fatal issue of which may be ascribed to local causes is the one of erysipelas, and as some interest is attached to it I append a brief sketch.

The patient, a strong well built man, formerly in the army, had always borne an excellent character for steadiness and regularity of habits. He had suffered for two or three days from a severe cold, which however until the day preceding his death had not prevented him from doing his ordinary duty. By the constant use of his pocket handkerchief he had set up some little irritation about the tip of his nose which, 24 hours before I saw him, became painful, the inflammation exhibiting a tendency to spread while

slight fever began to manifest itself. He went to bed, but did not seek medical aid, and on the occasion of my first visit I found him deeply comatose, and exhibiting all the worst symptoms of facial erysipelas extending to the brain. He died in about four hours after I saw him first, and 24 hours after noticing the irritation at the tip of his nose and feeling feverish. I have only to add that the patient had for many years been a total abstainer.

Diseases prevalent at Chefoo.—If this heading were meant to comprehend diseases affecting only the regular residents at the port or attacking persons during their stay here I should have but comparatively trivial ailments to mention; but so many persons visit Chefoo in avowed pursuit of relief from diseases contracted at other places that on reference to my nosological table I find that typical cases of most complaints present themselves for treatment. While, therefore, recording the absence of any epidemic, I may state that but few diseases specially prevail here, or seem to meet with other than an adverse reception on their introduction from without. The general type of disease, as also the peculiarities and complications encountered, will therefore, beyond noticing the modifications effected by climate, not demand further remark.

As to treatment I will first allude to the specific influence of ipecacuanha on acute dysentery. My mode of administration is very similar to that advocated by Dr. SOMERVILLE of Foochow, and is as follows:—On first seeing the patient he is ordered to take a pill containing one grain of opium. Twenty-five minutes after this, a mustard plaster is applied over the pit of the stomach, and as soon as this begins to take effect I give 40 grains of ipecacuanha mixed in a wineglassful of water. He is urged to endeavour to retain the powder at least an hour; and it is wonderful how often even the weakest patients are able to do this. Should the nausea however threaten to become unbearable after half an hour, I have found a draught containing two grains of carbolic acid most efficacious in enabling the stomach to retain its contents during the prescribed time. Of the immediate influence of ipecacuanha on dysentery I cannot speak in too high terms. The physician as well as the patient is often tempted to regard its action as "perfectly miraculous." Nor does its effect seem limited to that form of ulceration met with in dysentery properly so called. I have to record its repeated efficacy in cases of hæmorrhage from the bowels due to tubercular ulceration, one of the most serious and distressing symptoms in phthisis. In tubercular diarrhœa I have often found its use most satisfactory. I am convinced that all ulcerative action of the intestinal glands, from whatever cause, is beneficially acted on by this drug, and it is a fact of the highest practical importance that heroic doses given as I have indicated set up less nausea than smaller doses given repeatedly. I should state that in those rare cases where it may seem advisable to give another dose, that is where little or no change has been effected in the evacuations, I am in the habit of giving only 20 grains with the same precautionary measures; and if a third dose should be indicated I have found 10 grains suffice. While on therapeutics I am anxious to corroborate the statements made regarding the antidotal effect of atropine in opium poisoning. The antagonism between opium and belladonna was pointed out by PROSPER ALPIN just 300 years ago, but it is only since 1843 that any large number of instances have been brought forward in proof of the virtues of atropine as an antidote to opium.* In confirmation of the results obtained, as I have been told, at the Chinese Hospital in Shanghai, I have found injections containing from $\frac{1}{3}$ to $\frac{1}{2}$ a grain of the alkaloid the most satisfactory.

I would here mention the well marked effect which the inhalation (not by spray, which appears injuriously stimulative) of carbolic acid has in even advanced cases of phthisis in apparently arresting the further deposit of tubercle, besides alleviating the distressing symptoms.

Climate in relation to Disease.—The winter of Chefoo, though severe, is considerably modified as to its effects by the equable temperature preserved during the day and night, as also by the absence of any very

* Among the most recent moderns Dr. WILSON of Philadelphia (*Medical and Surgical Reporter* for November 1868, and *Lancet*, 3rd April 1869) should have the credit of introducing and bringing prominently before the profession the practice of hypodermically injecting atropine in cases of opium poisoning. In his case a solution of $\frac{1}{4}$ grain of the alkaloid was injected successfully when the patient was obviously at the point of death. R. A. J.

sudden changes. This coupled with the exceeding dryness of the air renders it less liable to propagate or intensify disease than the climates of places possessing a similar severity of cold. The importance of this characteristic will be appreciated when I mention our comparative freedom from serious affections of the respiratory organs during the winter months.

Of the early spring, however, I cannot speak so favourably, this period being usually marked by the prevalence of an epidemic of feverish catarrh closely allied to influenza. At this time, too, we meet with those bowel affections which prove more annoying than dangerous. From the beginning of May to the end of November we enjoy a climate which to my mind stands unrivalled. Its tonic and bracing effects are speedily shown on those suffering from debility consequent on recent attacks of acute disease. We see dysentery and diarrhœa rapidly giving way to the health restoring properties of the climate. To invalids suffering from hepatic or renal affections, to dyspeptics with loss of tone; in a word to all those suffering from the effects of exhaustive disease the climate of Chefoo offers unequalled advantages. As a resort also for persons usually resident in tropical or analogous climates I cannot speak too highly of this port. The mild and genial nature of the atmosphere, kept temperate even under the exceptional heat of last summer by the sea breezes, and its chemical and health productive purity are equally palpable to the exhausted invalid and to the scientific visitor.

Disease in relation to local conditions.—Under this head I have only to record the absence of drainage; but at the same time I must confess that this appears to exercise no injurious influence over the sanitary state. I account in three ways for the absence of those deleterious effects which might justly be supposed likely to follow so dangerous a disregard of sanitary laws—first, by reason of the great porosity of the soil; secondly, by the prevalence of high winds acting as diluents; and thirdly, by the characteristic assiduity with which the natives collect all refuse matter for agricultural purposes.

There being no damp or swampy soil within a great distance of Chefoo ague is not met with among the natives of the district.

Peculiar Diseases.—My previous remarks necessarily have reference to the foreign residents only, as I have no opportunity, nor indeed is it my province, to practise among the natives. That this Report, however, should contain as much information as possible I appealed to my friend Dr. BROWN of the Baptist Missionary Society, and besides the aid he kindly gave me in collecting the meteorological details tabulated before, he has added to the obligations under which I lie by contributing the following remarks:—

"Of the diseases prevalent amongst the natives about Chefoo, dyspepsia, affections of the eye and "skin, and winter cough stand in the front rank. Dysentery is occasionally met with in summer, and yields "readily to the treatment so deservedly lauded by my friend and colleague Dr. MYERS. Ague is unknown in "the immediate neighbourhood, but to the south and west of the province where great plains allow the rains "of summer to settle down in the soil, it is not uncommon. During the past year I have seen ten or twelve "cases of leprosy presenting the ordinary features of the disease as enumerated by Drs. MÜLLER and MANSON "of Amoy, with the exception of tinea-like patches of skin. In two cases the influence of damp in causing "leprosy could be traced; one man slept in a wretched hut by the sea-shore where the floor was constantly "wet, and began to amend on removal to a dry locality; another traced his troubles to a soaking in harvest "time, when heated by over work. The latter case cannot be cited as an example of the effect of moist "climate, for the patient lives in a hill side village where wet weather is exceptional. From the other cases "no clue whatever could be obtained to the causation of the disease, and in all the cases family taint was "distinctly denied. In the way of treatment, cleanliness, avoidance of damp, abundance of clothing in "winter, and good food are recommended as essential, the tinctures of steel and iodine are given in a bitter "infusion, while externally, in accordance with a stray notice in a Shanghai paper concerning the treatment "of leprosy, I think in Bombay, patients are directed to anoint themselves night and morning with a "solution of one part of carbolic acid in eighty to a hundred parts of sesamum oil, sesamum oil being "chosen for economical reasons. Two cases in which, under constitutional means solely, ulcers were constantly "cropping out, have presented a sound skin for the last two months, and both patients affirm that they have "recovered sensibility to pain on pinching where it was previously absent. The only other point of interest

"I can think of is the efficacy of bi-sulphate of quinine as recommended by Mr. BADER in the *Lancet*, in cases "of granular eye-lids with pannus. A small quantity of the powder is lifted on the tip of a Chinese pencil "and placed inside the lower eye-lid. In a few days obstinate cases on whom nitrate of silver, sulphate of "copper and glycerine collyria have failed, have shown marked signs of improvement."

Epidemics.—I stated in a former part of this Report that I had only to record their absence; but I should perhaps describe under this head a partial epidemic of whooping cough which existed here last summer, but which was directly imported from Shanghai. With two exceptions the disease presented the usual appearances, and in these, though complicated with pulmonary affections, the ultimate result was most satisfactory. I may here call attention to the peculiar effect nitric acid appears to have in soothing and even cutting short the attack. I tried it first on the recommendation of a Dr. NOBLE who lately communicated his experience to the Chicago *Medical Journal*, although I regarded it only as perhaps as good a placebo as any for allaying maternal anxiety and complying with the universal demand for a prescription in a complaint which I have always thought was *per se* benefitted by no medicine. But I must confess that in some manner unknown to me this remedy really seems to have most speedy effect. I give the suggestion for what it is worth, as I am not as yet in a position—although I tried it in some severe cases—to deny that recovery was merely coincident with the use of the acid. Following the directions of the writer, I filled a tumbler with sweetened water "and poured in enough nitric acid to make it as sour as good lemonade," directing that the whole should be given to the patient in 24 hours. The writer says, "I have given a "drachm of nitric acid diluted in this way to a child six months old;" and he adds, with more emphasis than elegance of language, "an adult male can take an ounce per day and plow right along." I contented myself with acidifying the sweetened water to the standard my authority suggests, and I must repeat that the results were very favourable. In concluding his paper Dr. NOBLE says, "according to my experience" (and he has previously described this as being very large and extending over 9 years) "with the acid "treatment, if it is commenced early and continued regularly, the disease will terminate in between one and "three weeks and a half; and the patients will never whoop."

Before concluding this Report I desire to call attention to the existence in the neighbourhood of Chefoo, of sulphur springs which are most useful in the treatment of cutaneous diseases and rheumatism consequent on constitutional taint. Not only the Chinese (who crowd them) but numerous foreigners have to thank these baths for contributing largely to the cure of the diseases just mentioned; and in those obstinate cases of syphilitic disease where rheumatic, ulcerative or cutaneous manifestations are unaffected by the ordinary treatment, I have in many instances found a trip to the baths either quite sufficient or at least of such decided advantage as to render slight additional and subsequent treatment completely effective. The water bubbles out at a temperature of 112° to 120° Fahr., and preserves in the bath a uniform heat of about 100° Fahr. I am of opinion that more information as to the sanitary effects of these waters will show them to be most valuable adjuncts to treatment in those cases which are an ever constant source of annoyance to the physician, and most distressing and disheartening to the patient. I have not been able as yet to analyse the water, but I hope ere long to be able to obtain at least an approximate idea of the constituents to which it owes its virtues.

Chefoo may, unfortunately, be classed with the other ports in China as being a very fruitful source of enthetic disease. This is specially exhibited after general leave has been given from the vessels of war or merchant ships, and the type of disease communicated appears to be very similar to that met with elsewhere.

The Water Supply of Chefoo is decidedly unsatisfactory, chemical and microscopical examination proving it to contain much organic matter in solution and to be full of organisms. I account for this by the fact of there being here (as elsewhere in China) an almost total absence of circumscribed cemeteries, nearly the whole of the plain reaching back to the base of the hills being a vast graveyard through which all the water must percolate before getting access to the wells from which it is eventually drawn. And besides this I would mention the filthy surroundings of the wells, as also the utter disregard for cleanliness shown by the water-carriers themselves who dip buckets in a state of the most atrocious filth into the water for the purpose of removing dirt too palpable for even their usually callous senses to bear. Persons long resident

here appear to suffer but little inconvenience from this state of affairs, but the crews of ships taking water at the port quickly discover its delcterious effects by an almost immediate outbreak of diarrhœa on board. This is seldom serious in nature or very long in duration, but still it is assuredly sufficiently disagreeable to demand attention being turned towards removing a cause so palpable, while at the same time admitting of comparatively easy remedy.

To resume, I think that as a sanitary resort few places in the world can enter into competition with our favoured port, while as a residence for the western foreigner I defy any other country remote from the land of his nativity to present a locality possessing such a happy blending of all the climatic conditions essential to the preservation of health and vigour.

H.—Dr. A. G. Reid's Report on the Health of Hankow for the half year ended 31st March, 1872.

Throughout the preceding six months no examples of epidemic febrile disease came under notice at either of the missionary hospitals. Judging from the non-appearance of such cases and from the fruitless results of the frequent enquiries made by native assistants in the most likely quarters of the town, it may be assumed that if these disorders were present they must both have been mild* and have continued only for a brief period. In February there was a rise of from 20° to 30° in the maximum temperature, accompanied by a prevalence of malaroid disorders, chiefly of the intermittent and remittent type. In some cases of the remittent form which were treated in hospital, somnolence was an unusual feature; in two patients it required an amount of rough shaking to rouse them temporarily, and in a third, a little girl æt. 2, comatose symptoms were present, the pupils were contracted and inactive to light, the fontanelle open but not distended, pulse 130, morning temperature 103°. She was stated to have been ill two days and to perspire in the afternoon and during the night. Quinine was administered in full doses without regard to the periods of remission, and with successful results in all cases. The failure to discover any type of exanthematous fever is scarcely what might have been anticipated, knowing the filthy condition of the houses and streets, the density of the population and the poverty in many quarters of the native city. It might have been presumed that the haunts of enteric fever at all events would have come to light, seeing that the products whence its organisms are supposed to be derived and nourished abound in many directions. This will be readily acknowledged if allusion be made to two of the more active and constant sources of impurity, namely the emanations from the latrines and drains. The latrines are numerous in order to meet the want of a large resident population and of a considerable body of men engaged in traffic with the country districts. They have been constructed without regard to cleanliness, and no chemicals are employed to interfere with the results of decomposition. Their contents are allowed to accumulate for three or four weeks until the large, deep, open troughs underneath are filled, and they are then disposed of to the farmer or gardener, and carried to the jetties in uncovered buckets, occasionally during the day, but principally and according to rule during the night. While the process of emptying the troughs is going on, the neighbourhood is saturated with odours of the most intense description, and which defy the tolerance of even well blunted olfactories. In a schoolroom in the vicinity of one of these places I have known the boys who had never smelt fresh air obliged to have their nostrils stopped or compressed during successive days to exclude the stench. Notwithstanding the apparent undesirable character of the locality, in some cases private dwellings and even restaurants doing a thriving business may be seen attached to the latrines, and only separated by a wooden partition insufficient to oppose the entrance of polluted air.

The drains are from three to four feet deep and two in width. They run along the centre or side of the street, and most of them are intended to carry their contents to the neighbourhood of the vegetable gardens behind the city. Very few of them however succeed in this, as having no fall and admitting of a ready percolation of the fluid portion of their contents, they soon become blocked up by accumulations of mud and debris. The sides and base of the drains are usually formed of bricks laid without much care, and imperfectly fixed together; they are covered by the stone pavement of the streets which presents numerous interspaces for the escape of the gaseous products. In the better quarters of the city this covering is uplifted from time to time and the contents are transported away to be used as manure, or are employed to raise the street itself. From the courtyard or interior of the smaller houses and from the atrium of the larger ones there is generally a drain connected with the main channel, and as no means are provided to obviate the regurgitation of gases from the cesspools of the streets, these drains must contribute largely towards increasing the impurity of the houses. In several of the poorer quarters of the city there are merely open ditches, or

* Small-pox, which has been extremely rare this year, is not included.

gutters of wood in a semi-rotten condition, half filled with decomposing refuse and garbage, and exposing their nauseous contents close by the doors or even under the floors of the houses. It may be further added that throughout the city there are other spaces covered with the huts of recent settlers or of colonies of beggars, and which are entirely destitute of drainage. In these abodes squalor and poverty may be seen under their most intense aspects. Moreover during the rise and fall of the river the subsoil becomes saturated and gradually dried, thus affording another favourable opportunity for the decomposition of the refuse which may have become mingled with and retained in the upper layers of the soil.

These various prolific sources for the development of organic germs have been specially referred to in connexion with the absence of enteric fever, because it may happen that in time evidence may be collected to prove or contradict an important theory in relation to this fever which is held by many American physicians and by M. BOUDIN, namely that where malaria exists, or in bodies of men who have suffered from aguish fevers, there is neutralisation or tolerance of the enteric poison. In China many opportunities are offered for noting the combined effects of malaria and exposure to putrefying fæcal and other organic matter, but it would be premature to hazard an opinion from observations made in one city over a brief period of time. So far however as I have yet seen, there is certainly no evidence in the form of malarious fevers here to confirm the opinion expressed by Dr. HARLEY, that these fevers and enteric fever "are developed amidst the same conditions, and we therefore unhesitatingly conclude that enteric fever is "often a part of intermittent fever, and the converse."—REYNOLDS'S *System of Medicine*.

Several interesting cases were met with in hospital and private practice, and to these reference will now be made, followed by whatever remarks may suggest themselves.

Aortic Aneurism in a patient æt. 25. A tall, rather slight built man of temperate and active habits complained, in November 1871, of having suffered during several weeks from occasional attacks of pain in the cardiac region. The pains radiated towards the back, left shoulder, and down to the elbow joint. Physical examination disclosed increased impulse over left ventricle, apex of heart below sixth rib in line of nipple, and an obscure murmur at the base. It was considered to be commencing valvular disease and hypertrophy, and treated accordingly. The pains ceased to give trouble and were forgotten, but at Christmas there was a sudden onset of aphonia with congested fauces, husky cough and scanty mucous expectoration. These symptoms improved, and shortly after the New Year my patient proceeded to Shanghai on a pleasure trip, promising to do nothing to excite cardiac action. While in Shanghai his throat felt perfectly well and he considered himself to be in good health, but about the 4th February while on his return voyage to Hankow, he was seized with a recurrence of aphonia and also with vomiting coming on at uncertain periods of the day, without nausea or pain in the epigastrium. After his arrival here I re-examined him on the 6th February, and noted as follows:—Apex of heart at seventh rib external to line of nipple, murmur at base more distinct, and bruit likewise audible at apex, the former propagated along left border of manubrium and towards summit of left lung; carotid arteries jerking, slight dulness over inner left subclavicular region with comparative deficiency of respiratory murmur and vocal resonance, and like symptoms in upper left interscapular region. Aphonia without pain over larynx, congested fauces, scanty mucous expectoration. Temperature in axilla 97⅘°. Pulse 72, somewhat small. There was some emaciation, which was stated to have chiefly occurred within the previous week; there was a loss of 21 lbs. in weight since the beginning of the year. I was puzzled to reconcile the symptoms, and but for the absence of febrile indications would have set them down to the development of tubercle in the larynx and lungs. The patient was kept in bed and watched. It soon became evident that the left radial artery was rapidly diminishing in size, and had become smaller than the right, that a like difference now existed in the brachials and carotids, and that the intensity of the murmur at the base was increasing and was very audible near the first dorsal vertebra. The dulness was also more pronounced, and there was ere long a feeling of pulsation communicated to the dull region in front. The tracheal notch was deep, the pupils normal, no sensations of dysphagia or dyspnœa, no interference with the venous circulation, respiration not increased; scanty mucous expectoration and pain severe at times under the shoulder blade. The diagnosis of an aneurismal dilatation of the aorta near

the origin of the carotid and subclavian arteries was now arrived at, because no other tumour could have increased with such rapidity, and have so interfered with the circulation of the left side, without producing more evidence of implication of other structures. The patient was sent back to Shanghai, as I hoped that the general health might improve if the appetite returned by the change, which would tend to delay the fatal event. On the day after arriving in Shanghai, however, expectoration of blood set in, and death suddenly occurred the same afternoon while the patient was quietly reading in bed. Dr. HENDERSON performed a postmortem examination and kindly sent me the aneurism for inspection. Its relations are as follows:—A dilatation of the aorta from immediately beyond the origin of the carotid artery to the descending portion of the arch and involving the whole circumference of the vessel except its inferior border. The sac thus formed measures 2¾ inches in length and 1¾ inches transversely, and extends principally towards the apex of the lung, to the inner surface of which it is united by recent, easily broken adhesions. A long rupture had occurred in it close to the junction of the outer and upper surfaces, and a quantity of blood must have escaped directly into the cavity of the thorax, while another portion was extravasated into the bronchi and texture of the lung near the apex, and traversing the upper lobe till near its lower margin had there burst through the visceral pleura. The subclavian artery arose from below the middle of the posterior aspect of the sac; it was flattened and the calibre greatly diminished. The carotid artery was half twisted on itself near the origin and was overlaid by the projecting inner margin of the tumour. The vagus nerve was stretched almost transversely across the front, and was compressed in the soft adhesions between the outer surface and the lung; in a part of its course it lay within two lines of the interior of the sac, and its anterior pulmonary branches, as well as the phrenic nerve and sympathetic plexus, were matted below a mass of enlarged glands which were united to the thickened adventitia in front. The thoracic duct passed along the back, curved over and adhered to the upper border where it projected between the carotid and subclavian arteries. The interior of the sac was corrugated and scattered over with reddish patches of atheroma pulp which at some points had ulcerated into the artery and in other places had formed wavy fissures cutting more or less through the middle coat. One of these could be felt sharply dividing the diseased from the healthy artery, near the origin of the carotid. The atheroma pulp contained an abundance of nucleated cells, granules and oil globules. Between the corrugations there were pouches limited by a very thin transparent membrane, and free from atheroma. In the thoracic aorta there were two small patches of disease. The upper lobe of the left lung was condensed by hæmorrhagic effusion, and in the lower lobe there was a hard calcareous nodule about the size of a field bean. I am not aware of the condition of the other organs.

The foregoing case is an instance of an intra-thoracic aneurism running a rapidly fatal course at a much earlier age than is usual among civilians; and as several deaths have occurred in China during the past year from a like cause, it may not be out of place to allude to what is known concerning an obscure but interesting malady. The early age of the patient now referred to is exceptional, for out of 120 cases collected by LISFRANC and cited in COOPER'S *Surgical Dictionary*, only five were between 20 and 25 years of age, and it is not stated in what proportion of these the aneurism may have been on an external artery. In GAIRDNER'S *Clinical Medicine* also, of the cases selected as illustrative of this disease the youngest was 34 and the large majority over 40 years. But on the other hand in military life, aneurism and disease of the coats of the aorta are not rarely met with at a comparatively early age. This greater prevalence among soldiers has been interpreted by Dr. MYERS as due to the constriction of the blood vessels of the neck by the tight uniform, while the heart is vigorously acting during rapid and long continued drill. Another theory in explanation of the same prevalence has recently been put forth in a paper in the *Edinburgh Medical Journal*, which claims an additional impediment to the circulation through alteration of the aortic curve by the weight of the heart during exercise in the upright position. That mechanical obstruction of the circulation is of considerable importance in the causation of the disease is also shown by the greater frequency with which aneurism and aortic disease are produced in classes of men accustomed to severe and prolonged labour, such as forgemen, puddlers, Cornish miners, &c., men of powerful muscular development, in whom the systemic circulation is severely compressed while they are at work, and the blood

heaped up in the vessels of the chest stretching and gradually destroying the elasticity of the aorta, and leading to atheroma. Severe labour further reacts on the heart by inducing physiological hypertrophy of the organ, and as this is unaccompanied by compensatory strengthening of the coats of the aorta, that vessel becomes very liable to disease.

The influence of sudden strains and jars in the causation of the disease is viewed differently by writers on the subject. NIEMEYER holds that accidents like these "will not cause aneurism in a *healthy* subject, and "that in many cases acknowledgment of the immediate causes of the complaint is only forced upon the patient "by the examiner." Dr. ALLBUTT again, although considering that severe labour may tell more on the coats than on the valves of the aorta, yet thinks that the former may be healthy and be cracked by some sudden effort, to be succeeded by a saccular aneurism and subsequent atheromatous changes. In the patient whose case has been detailed neither mechanical obstruction of the circulation in any form nor cardiac hypertrophy were present, and from the position of the aneurism at the further bend of the arch, it is little likely that the vessel should there have yielded to a sudden strain, unless the coats had been previously altered in the same neighbourhood. Besides this, from the shape of the aneurism and from the atheromatous patches and fissures having been about equally distributed over the sac, and not particularly located near its internal boundaries, it may be assumed that the endo-arteritis did not result from a sudden strain rupturing the internal coat at one particular place, but that it must have been due to some constitutional cause which had altered the blood plasma and the nutritive changes going on in the textures. Of the general influences which predispose to arterial degeneration, hereditary tendency, free use of liquor, rheumatism and gout may be more or less powerful, but no trace of any of them could be discovered in the history of the present case. There is yet another poison, however, which materially alters the fluids and solids of the body, and which is more frequently met with in private practice in China than in England. I refer to syphilis. The effects of this poison on the arteries is thus given in the 6th Edition of AITKEN'S *Science and Practice of Medicine* vol. ii. page 643. "With regard to the influence of syphilis, I may here observe that I dissected during four years "(at Fort Pitt and at Netley Hospitals for invalids) twenty-six bodies of soldiers, in each of which a distinct "*history of syphilis was present, associated with unmistakable syphilitic lesions*; and of these twenty-six "cases seventeen had the coats of the thoracic aorta impaired by characteristic changes—changes which are "uncommon at an early period of life, and which I have every reason to believe were due to syphilis—a syphil- "itic arteritis." It is also stated that in 114 postmortem examinations at Netley, there were 22 cases of atheroma of the aorta, and of these 17 had a syphilitic history, one was doubtful, and 4 had heart and lung disease. Of the 114, twenty-eight only had a syphilitic history, and 17 of these, or no less than 60.7 per cent, had atheroma. With such conclusive evidence of the tendency to the production of arterial lesions in syphilitic subjects, it need not cause much surprise if there be an excessive mortality and invaliding from aneurismal disease developed in China. The effects of Chinese and Japanese syphilis is thus alluded to by Dr. GORDON in a paper on the health of the army in the *Medico-Chirurgical Review* for January 1871:—"It is believed that "the form in which syphilis prevails in these two countries, being the most virulent to be met with anywhere, "tends to cause the frequency with which our troops are affected by diseases of the heart and blood vessels." In the present case, I found a nodule about the size of an almond near the base of the lung; it consisted of a hard calcareous kernel enclosed in a soft putty-like material, and was probably the remains of an old gummy deposit. Search was not made for like deposits throughout the condensed upper lobe, and I am not acquainted with the condition of the liver and other organs. The progress of the aneurism to its fatal end is now evident. At the time that the gummy tumour formed in the lung atheroma patches were probably formed in the aorta, but from the position of the disease exposing it less to cardiac pressure than if it had been developed in the ascending or anterior curvature, the coats of the vessel, although weakened, held out for some years, until the commencement of dilatation and relaxation of the vessel about November, whence the cardiac pains, irritable heart and depressed apex beat in that month. *About Christmas the continuance of the* enlargement led to irritation of the recurrent nerve and the aphonia which was supposed to be due to the congested larynx and fauces, and which disappeared throughout January. About the beginning of February there was a further enlargement, and pressure of the vagus between the tumour and the lung, followed by frequent

vomiting and a return of the laryngeal symptoms, and a little later on an increase in the upper border and anterior margin which suddenly altered the pulsation in the left carotid, diminished materially the size of the pulse, and caused the heaving communicated to the stethoscope in the inner infra-clavicular region. The absence of head symptoms, beyond severe pain in the frontal region for three or four days, is worthy of note, considering the interruption to the circulation through both the left carotid and vertebral arteries. The diagnosis of the disease was at first most obscure from the situation of the tumour, but if even suspicions had been excited, the truth might have been arrived at much earlier, by observing the tracings of both radial arteries and comparing the dicrotism and parallelism of the pulses.

Aneurism prevails with greater frequency in some countries than in others. BILLROTH remarks that "in Germany aneurism of the extremities is rare; it is somewhat more frequent in France and Italy, and "most frequent in England," and that "in Zürich atheroma of the arteries in old persons and gangrena senilis "are quite frequent, but aneurism of the extremities is rare."—(*Surgical Pathology*). Dr. GORDON likewise, in the paper previously alluded to, states in reference to heart diseases among certain aboriginal populations that, "black and coloured troops enjoy an immunity from heart diseases in their rate of occurrence, but the "rate of mortality of these diseases is greater than among European troops. This is said to hold good with "Hindoos, Mussulmans, Caffres, Hottentots, West Africans and the half-castes of St. Helena. To explain the "fact, the ingenious theory has been propounded that those races which are most civilised, and whose "susceptibilities are most developed, are most liable to the affections in question. How far the explanation "is to be deemed satisfactory, I offer no opinion." There are no statistics available to determine the proportion of cases in which the disease in those populations affected the coats or valves of the aorta. In Hankow, judging from the experience of last year, I should say that aneurism of the extremities is also rare, although degeneration of the arteries is common enough. Only two specimens of external aneurism (femoral) came under my notice. Of internal aneurisms there were one of the ascending and one of the abdominal aorta, and I have at present under treatment in hospital a second example of aortic aneurism, the tracings of whose pulses differ materially. In either artery, the summits of the pulsations are not of equal height; in the right, the line of descent is immediately interrupted by a deep notch, and the first secondary wave rises higher than the level of the summit wave; the aortic notch is well defined, and the dicrotism considerably diminished; the line thence falls very obliquely, with one or two undulations. In the left, the ascent continues from the top of the first summit wave obliquely upwards to the first secondary wave without any distinct notch, and both the aortic notch and dicrotism are less evident than in the right tracing. The patient is fifty years of age, and some of the changes in the pulses are due to the atheromatous condition of the arteries. The pulsation of the heart is outside the line of nipple. There is visible pulsation in the second and third right intercostal spaces, dulness on percussion, deficient respiratory murmur, and loud rough bruit with the first cardiac sound, and loud booming second sound. The patient applied on account of œdema of the face, and had little or no complaint to make about his chest.

It would not give a correct idea of the frequency of thoracic aneurism among the natives to contrast the few cases met with in dispensary practice with those observed in hospitals, prisons, or in the armies at home, as the patients can be less closely watched here and doubtful cases can seldom be cleared up. The rarity with which it is met with in some of the latter places will be seen from the statistics of the New York Hospital, where over a period of five years from 1865 to 1870, six instances of thoracic aneurism were detected among a total of 11,344 patients. In the Queen's Prison at Brixton where the prisoners are under long sentences, and where their previous modes of life tend to produce arterial degeneration, there were eight male and five female deaths due to internal aneurisms during a period of fifteen years, and out of a daily average number of convicts amounting to 6,042.7 men and 1,059.4 women. The percentage of deaths to the total deaths was 0.61 for males, and 2.33 for females. HOLMES's *System of Surgery*, vol. iii. page 417.

MISCELLANEOUS CASES.

1.—A. B.; æt. 40; had suffered from syphilis in his youth; contracted a recent chancre which healed up without hardness or distinct enlargement of the glands. From the female who had communicated the disease, another adult at the same date contracted a hard chancre succeeded by an ordinary course of syphilis. In the former there supervened ostitic pains in the cranium and clavicles, with marked anæmia

and emaciation. On making an effort to break a thin bamboo rope, the right clavicle was felt to snap, and the arm could not be elevated. I saw the patient on the following day, and discovered a fracture passing obliquely from before, backwards and inwards near the outer third of the bone. Bandages and iodide of potassium were employed, and the fracture healed up without giving any further trouble, but with overriding of the inner fragment, the point of which can be felt four inches from the sternal notch.

2.—C. D.; æt. 32; had been an oarsman on board a gunboat, and eighteen months ago was struck by his officer over the arm with a piece of bamboo. He continued at work for a month subsequent to this, but was than obliged to give up rowing, and since then has earned a livelihood by assisting some of the soldiers in chopping straw. It was not necessary to use the injured arm much, and it had ceased to give him pain until the previous month, when it began to trouble him somewhat, and also became swollen over the lower portion. On the morning of the day on which he applied at the London Mission Dispensary, while raising his arm to reach the back of his neck he felt the bone snap, and the arm fell useless by his side. The humerus was found to be fractured a little below the middle. Rectangular splints were applied, and in the fourth week when they were removed the swelling had disappeared except a hard mass of callus which united the bones. The patient denied having had syphilis, or being of intemperate habits, and there was no indication of scorbutus.

The first case is of interest as an example of the effects of venereal contagion on an individual who had previously passed through an attack of syphilis. It generally happens that complete immunity for the future is acquired when the system has been once impregnated with the poison of syphilis, but cases have been recorded where the symptoms recurred in regular order. (HILL *on Syphilis*, page 28.) In the present instance there had been no evidence of active syphilis for many years, but shortly after intercourse with a female, who communicated a hard chancre and the ordinary subsequent results to a virgin system, this individual exhibited a chancre free from hardness, but which was closely followed by erythema of the fauces, ostitic pains and hepatic enlargement. The freedom of the patient for so many years, and the return of symptoms shortly after exposure to contagion renders it almost certain that these symptoms were the effects of the fresh chancre and not a mere relapse of the old disease. The fracture of the clavicle under a trifling effort of strength is analogous to the cases alluded to in HOLMES'S *Surgery*, vol. ii. page 35, where it is stated that the humeri and even the thigh bones have given way under slight efforts in syphilitic subjects.

In the second patient I at first thought that malignant disease or inflammation might have attacked the seat of a former injury, and led to softening of the bone, and an easy destruction of its continuity. The separated ends felt enlarged, they slid freely over each other, and crepitus could be readily elicited by moderate lateral pressure. The treatment for fracture, however, was enforced and the patient kept under observation. No symptoms occurred necessitating the removal of the splints before the fourth week, and at that date the ends of the bone were found encircled and cemented together by a ring of callus. The patient was seen four months subsequently, and assured my native assistant that his arm had given him no further trouble. In connexion with these two cases I may mention that some years ago I met with fracture of the clavicle in a marine who had fired many rounds at a target one afternoon, and who on returning on board ship, complained of severe pain in the shoulder. He was suddenly awakened in the night by an aggravation of the pain, and on trying to get up found that he could not use the arm. When seen in the morning the clavicle was found to be broken.

3. *Amputation of forearm.*—A soldier while loading a gingal in which there was some ignited powder, had his hand and wrist blown to pieces. The lower part of the forearm being also scorched, amputation was performed through the upper third by antero-posterior flaps. The wound was treated antiseptically and soon recovered. He remained a fortnight in hospital.

4. *Amputation at ankle joint.*—A female; æt. 26; had suffered during five years from disease of the metatarsal bones of the right foot. The plantar and dorsal surfaces of the foot were one large ulcerating mass, but sufficient heel pad was left to form a flap. SYME'S amputation was performed. From the compression which the foot had previously undergone, the neck uniting the flap to the leg was extremely narrow, but the flap itself was loaded with fat and with abundant blood vessels. The operation was performed under carbolised spray, and the antiseptic paraphernalia used. A rapid recovery ensued.

5. *Amputation through both legs.*—A girl; æt. 6; the daughter of the superintendent of an opium shop, was brought to the London Mission Hospital by her father, suffering from frost bite of half the right

foot, and of the toes of the left. He was informed of the consequences that would result, but refused to leave her in hospital, adding that a child with half a foot was useless to him. In the course of a month afterwards I saw the same child at the convent with both feet completely gangrenous. The woman who carried her to the convent stated that she had been lying exposed on the streets for two days and nights. The child was now reduced to an extreme condition of emaciation, the face was swollen and there were bronchitic râles in the lungs. Lines of demarcation had commenced close above the ankle joints, and there was an abundant discharge of matter. I performed amputation through both legs by long anterior flaps with very short posterior ones. The operation on the right leg was conducted under carbolised spray, catgut ligatures were employed to secure the vessels, and the instructions given by Mr. LISTER were faithfully carried out in stitching and dressing the wound. The left stump was treated in the ordinary manner with wet lint, and subsequently with chloride of soda and zinc lotions. The former had completely united in 10 days, the latter required a little over three weeks before firm union took place.

Patient No. 4 assured me that previous to the onset of disease in the foot she had frequently walked a distance of 60 *li* without fatigue in one day, and from enquiries made among dispensary patients there is no doubt that bandaging of the feet, as done in the country districts near here, does not interfere so seriously as is often imagined with progression. Walking is almost entirely dependent on the heel of the foot, the knee joint is kept rigid, the calf of the leg atrophies, but the muscles of the thigh become well developed. In the present case bandaging had been commenced at the customary age, namely the fifth year. The healthy foot measued 5 inches in length, the ball of the toe and the heel approximated to each other, and were separated by an abrupt cleft $2\frac{3}{4}$ inches in depth, which represented the arch of the foot. Rolling of the foot is effected by means of a cotton bandage, 4 yards long and 3 to 4 inches broad, wound round the foot and ankle, and reversed so as to make it lie smoothly. The period necessary for accomplishing the wished for alteration in shape may be judged from the following examples:—Æt. 5, foot rolled 2 months, length $5\frac{1}{2}$ inches; inner border perfectly flat, surfaces of outer metatarsal bones inclined outwards, and the corresponding phalanges downwards and inwards. Æt. 5, rolled 6 months, 5 inches in length, four outer toes turned under foot, the points being nearly in a stranght line parallel with, and almost reaching to inner border. Æt. 8, rolled for 1 year, length $4\frac{1}{2}$ inches; points of toes at inner border of foot, ball of big toe and heel approximated so as to raise the arch of the foot into a narrow cleft like form. The posterior surface of the os calcis is anterior to a line dropped perpendicularly from the posterior border of the external malleolus. Æt. 20, foot 3 inches in length, ball of big toe can be made to touch anterior margin of heel, and with slight force the tip of the toe can be applied to the posterior border. The metatarsal bones descend perpendicularly from their tarsal articulations, and the os calcis feels as if in the erect position.

On laying open the foot which I had removed, it was found to be loaded with fat, and the muscles were not more wasted than is usual in the disease. The longitudinal arch rose abruptly to a height of $2\frac{1}{2}$ inches from the internal tuberosity of the os calcis to the scaphoid, and thence descended by a less perpendicular line to the head of the metatarsal bone, the former and the latter being 2 inches apart. At the outer border the greatest height was $1\frac{3}{4}$ inches near the tuberosity of the fifth metatarsal. The lateral curvature of the anterior row of the tarsus was increased, and the middle cuneiform was forced upwards. The metatarsal bones descended almost perpendicularly from their tarsal articulations, and met the phalanges at right angles. The dorsal ligaments connected with the anterior row of the tarsus were exceedingly lax, and were only rendered tense by the forcible approximation of the tuberority of the os calcis and the head of the first metatarsal bone. The *astragalus* was bent so as to increase the saddle shaped appearance of the bone, the fibular side of the superior articulating surface being considerably higher than the tibial. The external facet was triangular but not larger than the internal. Behind each facet the depressions for the lateral ligaments were deeply marked, and so likewise was the groove for the tendon of the flexor longus pollicis which passed straight down the broad, thickened posterior surface. The neck was extremely short, the head of the bone being close to the superior articulating surface above, and only separated below from the posterior facet by a deep narrow groove. The inferior anterior facet and the head of the bone were covered with one continuous cartilage. The projection of the *os calcis* forming the heel was bent downwards and also inwards, increasing the concavity of the inner surface. The greater process was shortened, bringing the articulating surface for

the cuboid close to the large external facet. The internal facet was high and crescentic, and extended more than half way across the greater process. On the inferior surface the external and internal tubercles were less prominent than usual, and were united by a ridge of bone. The tubercle for the attachment of the short plantar ligament was well developed. The anterior articulating surface was broad transversely, and deeply concave. The *scaphoid* was of small size, the posterior articulating surface comparatively shallow, internal facet on anterior surface hollow, and two external ones prominent and somewhat rounded; large facet for articulation with the cuboid continuous with the former. The *cuneiform bones* were of small size, and carious, many of the facets being destroyed by disease. The anterior facet of the internal cuneiform was marked by a longitudinal, rounded ridge which fitted into a concavity in the head of the first metatarsal. The depressions for the interosseous ligaments were deep, and gave prominence to the facets. The posterior facet on the internal surface of the external bone was elevated and somewhat rounded, and fitted into a concave surface on the middle cuneiform; the anterior surface was bent forwards, and the facet for articulation with the cuboid was continuous with that for the scaphoid. The *cuboid* was narrow transversely, the posterior half being bent forwards, deepening the groove for the tendon of the peroneus longus. The external surface was reduced to a sharp ridge separating the posterior surface from the articular surface for the fifth metatarsal, and fitting into a notch in the eminence of the latter bone. The anterior facets were prominent, looked outwards and were curved from above downwards. The posterior articular surface extended from the tip of the tubercular eminence to the ridge representing the external surface; it was deeply concave towards its external, and convex towards its internal border. The facets on the internal surface were separated by a narrow ridge over which the cartilage was continuous. The shafts of the *metatarsal bones* were extremely slender and somewhat rounded. The heads of the second and third projected beyond the others; those of the fifth and fourth formed a concavity into which the cuboid sank. The facets were destroyed by disease.

6. *Strangulated Inguinal Hernia.*—The hernia was a congenital one, but had been reducible until the evening before admission. It had since that date defied the efforts of companions, and several of the native faculty. The sufferer was a military officer, and when brought to hospital was in the greatest agony. The scrotum was so discoloured and swollen from the severe handling to which it had been subjected, that at the first glance it looked like a case of extravasation of urine. Chloroform was administered, and the sac was laid open in the usual manner under antiseptic spray. More than a foot of congested dark looking bowel and a large piece of omentum filled the sac. The former was returned, but a portion of the latter had to be cut away. Considerable tenderness persisted for some days over the right side of the abdomen, but the patient was kept under the influence of opium, and in ten days recovery had taken place. The testicle was forcibly drawn up by the cremaster into the inguinal canal, and was with some difficulty kept in the scrotum.

This was the only instance of a strangulated hernia met with during the past year, and as rupture is not an unfrequent complaint I made enquiries among native practitioners, hoping to learn whether or not they ever employed acupuncture to effect reduction. I found that in Hankow this mode of treatment is rarely employed for any disease, except by a few practitioners from Hunan. In cases of scrotal swellings attended with much pain, whether they be due to hernia or to hydrocele, the needles are not passed directly into the tumour, but are inserted a short depth into the wall of the abdomen on the left side midway between the umbilicus and the anterior superior spine of the ilium, or a little in front of the cartilage of the ninth rib, or into certain parts of the leg or foot. It is believed that in these situations there are special gateways which allow a superabundance of air to esape, which is supposed to have collected in quantity in the textures of the scrotum, and impeded the circulation. I was assured that the needles shown me, which were of silver and about the size of a darning needle, were never passed more than a quarter of an inch in depth, and most frequently only about one-sixth, and that these shallow punctures were the only kind resorted to by those who here followed this mode of treatment. These instruments are far too clumsy to admit of puncturing the bowel with safety in intestinal pneumatosis or in strangulated hernia. Among hospital patients I have met with some examples of harmless punctures in the extremities or over the ribs, but not with the serious kinds seen in other parts of the empire, and which Hunan medical men inform me are resorted to in their native province.

7. *Ear almost completely detached.*—A thief was caught lurking near an officer's tent on the city wall whence some articles had been abstracted a few days previously, and being considered the guilty man

an ear was ordered to be cut off. To increase the sufferings of the victim, the pinna was left adherent by a narrow tag of the lobule, so that a period might elapse before the organ completely dropped off. The unfortunate wretch gave such trouble to the soldiers, that on the third day one of them brought him to the hospital to see if anything could be done for him. The meatus was severed through, and the auricle dangled on his neck as he moved about, but with the exception of the upper border of the helix it looked healthy. I therefore freshened the wounds, carefully stitched together the meatus with carbolised silk, and employed antiseptic treatment. Complete union ensued, but an ulcer was left at the upper border, and as it was slow in healing, five small centres of skin were taken from the arm and fixed to the sore with isinglass plaster secured by bandages. In three weeks there was perfect recovery, and the patient left with all the external appearances of an honest man.

8. *Laryngeal fistula from cut throat.*—The patient had been ordered to repair the road in front of his cottage, but failing to do so, the servants of the mandarin came to bring him before the official. He retired into a back room and attempted to commit suicide by cutting his throat with a razor. The wound, which had extended across the front of the neck, had cicatrised, leaving an opening an inch long immediately above the vocal cords, the movements of which were visible. The extremities of the wound united after having been pared and stitched, but a constant expectoration of mucus kept the centre open; it healed ultimately under nitric acid applications.

9. *Gunshot injury.*—A general while leading his troops against a body of rebels in Yunan received a bullet wound in the lower part of the back of the leg. After many months of suffering the bullet was discharged, but since then (a period of five years), the wound had from time to time broken out afresh, and unfitted him for duty. While passing through Hankow en route for Pekin, deep suppuration occurred under the muscles of the calf, and as he experienced no relief during ten days of native treatment, he was brought to hospital by his relatives. The patient was 60 years of age, extremely emaciated, and exhausted by his sufferings; the leg was swollen from the knee to the ankle, and was covered with plasters. Chloroform was administered, and incisions were made above and below; through the latter the finger could detect a piece of loose bare bone; this was removed, a drainage tube was passed from one opening to the other, and a current of weak carbolic acid solution was frequently kept up through the tube. He remained in hospital about a fortnight, when he left on crutches with the leg healed, but still too weak for walking.

10. *Gunshot injury.*—A cavalry officer while retiring up a hill before a rebel force received a wound in the lower and outer part of the thigh. The bullet traversed the thigh and lodged in the head of the fibula, leading to inflammation of the knee and acute flexure of the joint. With the probe the bullet could be felt located in the expanded head of the fibula. It was extracted and the loose pieces of bone cleared away. After this the wound entirely healed. An attempt was then made to straighten the leg under chloroform, but this failing, the flexor tendons were divided. The limb could thereafter be forced into the extended position, and was secured in a wire splint. The man remained in hospital about a week, always expressing his belief that a spontaneous cure would ensue now that the bullet was gone. He disappeared with his friends one morning, much to my regret, to undertake a long journey back to Hunan, so soon after the severe treatment applied to the knee joint.

11. A countryman entering one of the city gates three years ago while the soldiers were firing at a target on the wall, was wounded in the front of the leg, and had since been reduced to beggary, being unable to work on account of repeated abscesses in the same situation. The bullet could be felt lying deep between the bones, and was easily extracted. It weighed an ounce. Recovery followed.

12. *Excision of elbow joint.*—A labourer was wounded in the elbow joint two years ago; the bullet had dropped out, but acute inflammation and anchylosis in the straight position ensued, and the limb was comparatively useless. The wound also had recently opened up, and the probe could be passed down to bare bone. Excision by a straight longitudinal incision was performed, and recovery with a tolerably flexible joint ensued.

These cases of gunshot injury being all of long standing, illustrate the chances of recovery even in the simplest instances treated by the native faculty. Two of the patients were men of means, had consulted numerous doctors in different provinces, and had used a variety of plasters guaranteed to draw the bullets

out, but nevertheless remained cripples until relieved by easy enough operative treatment. The cases made a very strong impression at the time on both the patients and their friends, and it is possible that if they came more frequently under the care of foreign surgeons we might soon see a knowledge of surgery a desideratum on the part of the army officials. If the wishes of the soldiers themselves might be judged of by their frequent attendance at the dispensary and by their residence and excellent behaviour while in Hospital, they would gladly welcome native doctors possessing the foreign art.

13. *Abscess of the liver.*—A labourer had suffered for more than a month from hepatic pains which unfitted him for work, and during the last week he noticed a hardness stretching from the right hypochondrium towards the epigastrium. Judging this to be an abscess forming, he was requested to remain in hospital. He however had some arrangements to make at home, but returned in a fortnight. The liver dulness was then normal, except at the lower border inside line of nipple where it stretched for three and a half inches into the epigastrium, and measured nearly as much in breadth. It felt hard and tender, while near the centre the skin had a reddish appearance. Over this latter point potassa fusa was firmly applied, and the eschar covered with lint soaked in carbolised oil. The following morning the eschar was divided and the caustic reapplied, followed by similar after-treatment, and this was repeated a third time. On the evening of the day on which this was done my native assistant came to inform me that matter was escaping from under the dressing, and I immediately removed it and gently pressed the abscess while a stream of disinfectant solution was kept flowing over the opening. I then injected the cavity with the same solution and applied antiseptic dressing. This was repeated daily till in a few days all discharge had ceased. Under the use of iodine and muriate of ammonia, hardness disappeared, and a good recovery ensued.

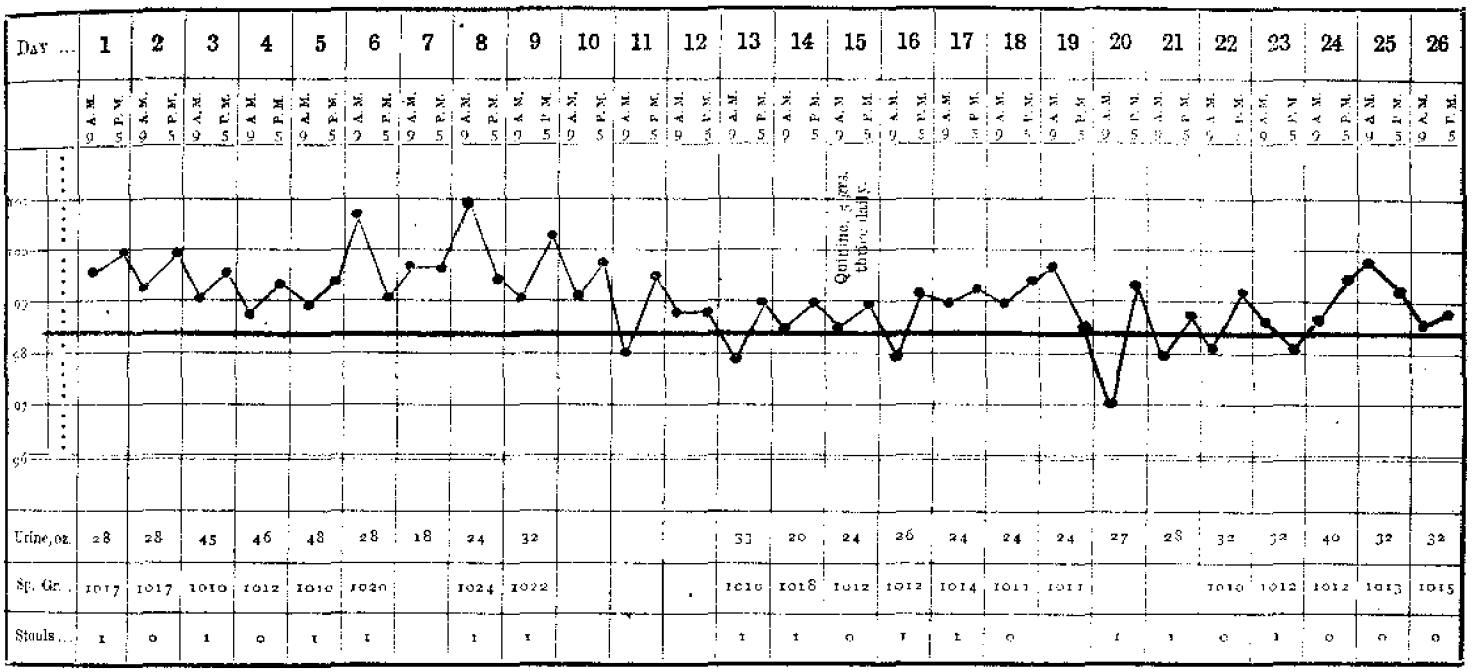
Hepatic abscess is very rare in this part of China, so far as yet noticed by foreign observers. Yet the summers are hot and the weather variable, the natives extremely poor and exposed to the inclemencies of the seasons, while their habits are less distinguished by sobriety than is often supposed. Respecting this latter point and the kind and quantity of spirit consumed by the country people, I hope to bring forward some facts in a future Report. Among foreigners in past years two deaths occurred from this disease. One of these was similar to the above, but before local treatment by caustic had been begun, the abscess burst into the abdomen while the patient was at stool. In the second case, the nature of the complaint was not suspected till the patient was in extremis. The abscess was then found pointing between the eighth and ninth ribs in the line of the axilla, and causing the most intense agony, while hectic fever had completely exhausted the poor sufferer. The abscess was punctured with a trocar, and a breakfastcupful and a half of pus escaped. The patient experienced great relief, but gradually sank, and died on the fifth day. In cases like the latter, emptying the cavity with a suction syringe, and employing antiseptic dressing ought to afford a good chance of recovery, if undertaken at the proper moment.

Tumours.—Eleven tumours were removed, and of these seven were cysts filled with a semi-solid material. Of the others one was a large fibro-cystic tumour occupying the posterior digastric space and parotid region, and producing great deformity; the second was a neuroma on the posterior interosseous nerve of the forearm, attended with such severe lancinating pain that the patient had given up work for more than a year; the third was a fatty tumour weighing 5 lbs. over the right scapula, and the fourth was a small fatty tumour the size of an orange situated over the left temple. In this last case the patient was otherwise rather good looking and was a civil mandarin wearing a blue button. He had in vain tried the native faculty in Soochow, Shanghai and one or two other places but was at last recommended to the foreigners by the native Deputy-Superintendent of Customs. By the use of RICHARDSON'S spray producer the tumour was removed without causing pain, and the thanks of the man and the astonishment of his companions sufficiently attested the value they placed on a very trifling operation. The wound healed by the first intention, and in less than a week the patient had returned to his post, pleased with the improvement in his personal appearance.

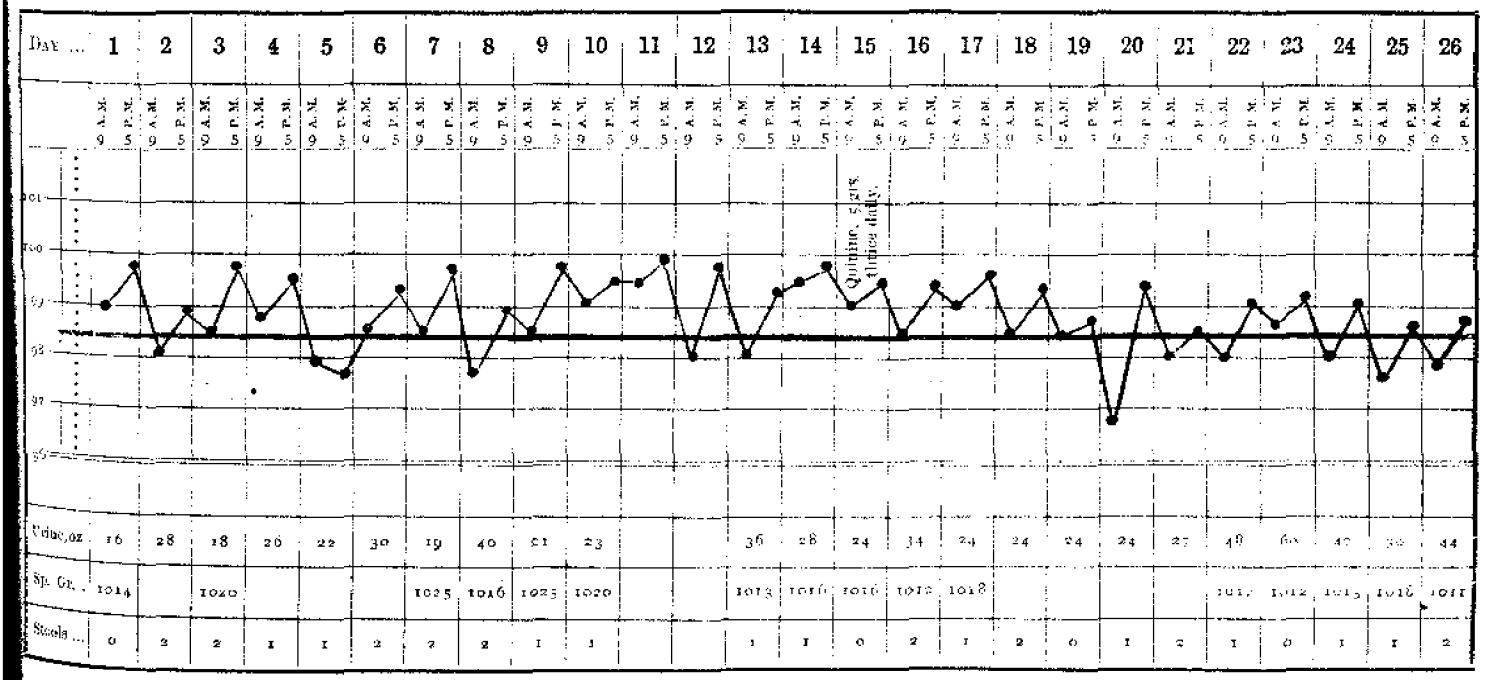
Among minor operations, there were eight cases of fistula in ano successfully treated, four of hemorrhoids deligated, and four of hydrocele injected with iodine. There was also a patient with a cyst in either testicle containing a milky looking fluid, coagulating by heat, faintly acid, sp. gr. 1030, full of masses of cholesterin crystals and round cells, but without spermatozoa. The right cyst contained nine, and the left five ounces of the fluid. They were treated like hydroceles and disappeared.

DIAGRAMS showing the Morning and Evening Temperature, taken in axilla, in three cases of Anæsthetic Leprosy.

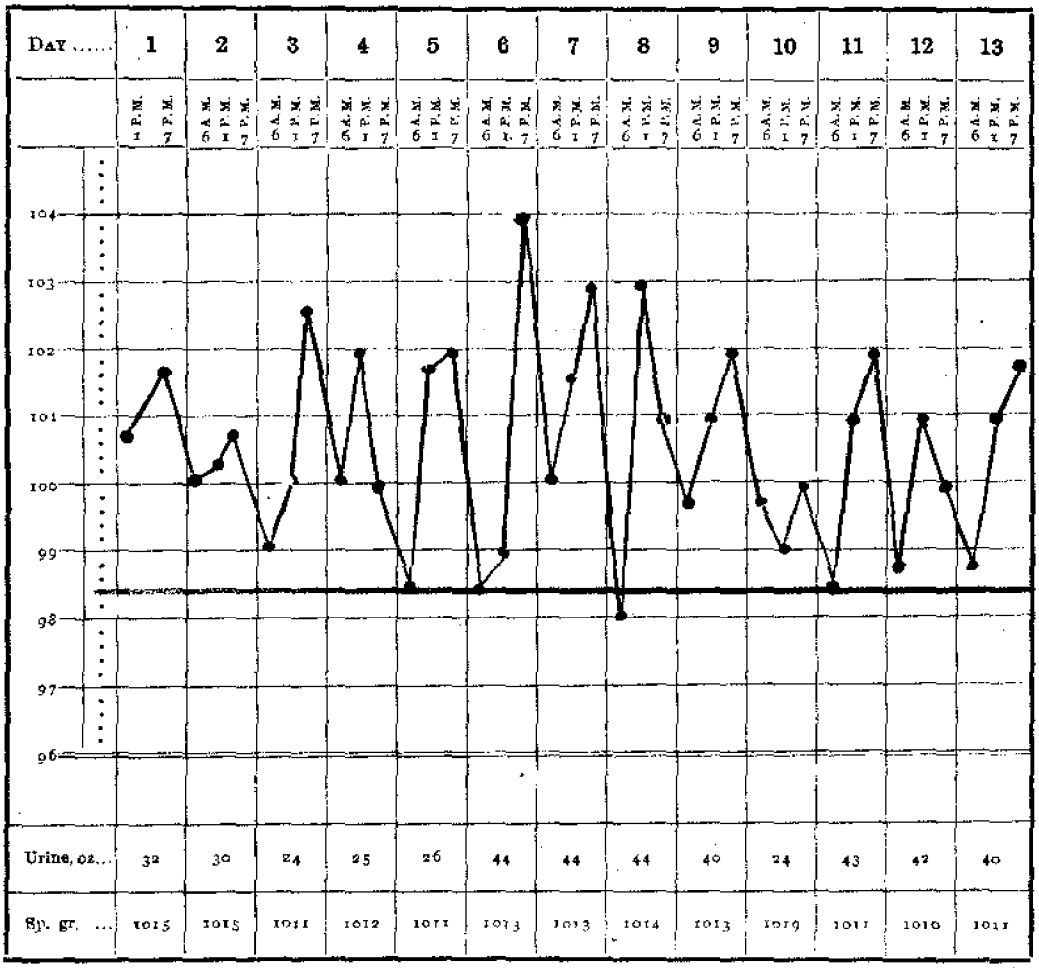
No. 1.



No. 2.



No. 3.


Day 1 2 3 4 5 6 7 8 9 10 11 12 13
6 A.M. 1 P.M. 7 P.M.
104
103
102
101
100
99
98
97
96
Urine, oz... 32 30 24 25 26 44 44 44 40 24 43 42 40
Sp. gr. ... 1015 1015 1011 1012 1011 1013 1013 1014 1013 1019 1011 1010 1011

J.—Dr. Scott's Report on the Health of Swatow for the half year ended 31st March, 1872.

The following table indicates the diseases which have come under my notice among foreigners during the half year.

	October.	November.	December.	January.	February.	March.
A.—Zymotic Diseases.						
I. *Miasmatic Diseases:*—	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Intermittent Fever,	10	12	2	6	4	9
Diarrhœa,	3	7	2	2	5	11
Dysentery,	2	1	2	2	2	1
Ophthalmia,	1	3	—	2	2	—
Diphtheria,	—	—	1	1	—	—
Anthrax,	—	—	1	—	—	—
Boils,	2	2	3	—	—	—
Influenza,	—	2	1	2	4	—
Erythema,	—	—	—	1	—	—
Erythema Nodosum,	—	—	—	—	—	1
II. *Enthetic Diseases:*—						
Syphilis,	—	13	4	8	7	5
Periostitis,	—	—	—	1	—	—
Iritis,	1	—	—	1	—	—
Gonorrhœa,	7	8	7	4	6	9
Bubo,	2	—	1	—	3	—
Orchitis,	1	—	—	—	2	4
Epididymitis,	—	1	—	3	—	—
Stricture,	—	1	—	—	—	—
Phymosis,	—	—	—	—	3	4
III. *Dietic Diseases:*—						
Intemperance,	—	1	1	1	1	—
IV. *Parasitic Diseases:*—						
Scabies,	1	—	—	—	—	—
Tape Worm,	—	1	—	—	—	—
Round Worm,	—	—	—	—	—	1
B.—Constitutional Diseases.						
I. *Diathetic Diseases:*—						
Rheumatism,	2	4	1	5	—	3
Anasarca,	1	1	—	—	—	—
Asthma,	—	1	—	—	—	1
II. *Tubercular Diseases:*—						
Phthisis Pulmonalis,	—	2	—	—	1	—
Hæmoptysis,	1	—	—	—	—	—
C.—Local Diseases.						
I. *Diseases of the Nervous System:*—						
Otitis,	—	1	—	—	—	—
Sciatica,	—	—	1	—	—	—
Neuralgia,	—	—	1	1	1	1
Delirium Tremens,	—	—	1	—	1	—
II. *Diseases of the Circulatory System:*—						
Disease of Mitral Valve,	—	1	—	—	—	—
Angeioleucitis,	—	—	1	—	—	—
III. *Diseases of the Respiratory System:*—						
Bronchitis,	1	—	—	—	5	—
Pneumonia,	—	—	1	—	1 *	—
Congestion of Lungs,	—	—	—	1	—	—

	October.	November.	December.	January.	February.	March.
C.—Local Diseases.—*Continued.*						
IV. *Diseases of the Digestive System* :—	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Pharyngitis,	1	—	—	—	1	2
Peritonitis (acute),	—	—	—	1	—	—
Gastritis,	1 *	1	—	2	3	—
Enteritis,	—	1	—	—	—	—
Dyspepsia,	2	4	—	1	2	3
Jaundice,	—	1	—	—	—	—
Colic,	1	—	—	—	—	—
Congestion of Liver,	—	—	—	—	3	—
Hepatitis,	1	1	1	1	—	—
Piles,	—	2	1	—	—	—
Strangulated Femoral Hernia,	—	—	—	—	—	1
Toothache,	—	2	—	—	—	—
V. *Diseases of the Urinary System* :—						
Nephritis,	—	—	1	1	—	—
Cystitis,	1	—	1	—	—	—
VI. *Diseases of the Generative System* :—						
Spermatorrhœa,	—	1	—	—	—	—
Orchitis,	—	—	1	—	—	—
VII. *Diseases of the Locomotive System* :—						
Caries of Femur,	1	—	—	—	—	—
Periostitis,	—	1	—	—	3	1
VIII. *Diseases of the Integumentary System* :—						
Eczema,	1	2	—	—	—	2
Abscess,	1	—	2	2	6	—
Onychia Maligna,	1	—	—	—	—	—
Ulcer,	1	—	2	1	—	—
Warts,	—	1	—	—	1	—
Paronychia,	—	—	2	1	1	1
Corns,	—	—	—	1	—	—
Pernio,	—	—	—	1	—	—
Herpes Zoster,	—	—	—	1	—	—
Acne,	—	—	—	1	—	1
IX. *Diseases of the Eye* :—						
Hordeolum,	—	—	—	1	—	—
Pterygium.	1	—	—	—	—	—
Corneitis,	—	1	—	—	—	—
Iritis,	—	1	2	—	—	—
D.—Developmental Diseases.						
II. *of Women* :—						
Miscarriage,	2	—	—	—	—	1
Leucorrhœa,	1	—	—	—	2	—
Menorrhagia,	—	—	1	—	—	—
Dysmenorrhœa,	—	—	—	2	1	—
IV. *Diseases of Nutrition* :—						
General Debility,	—	—	5	—	—	—
E.—Lesions from Violence tending to Sudden Death.						
I. *Accident* :—						
Heat Apoplexy,	1	—	—	—	—	—
Contusion,	3	2	4	—	1	2
Sprain,	—	1	—	1	1	—
Drowning,	—	—	1 *	—	1 *	—
Rupture of Perineum,	—	—	1	—	—	—
Burn,	—	—	—	1	—	1
Fracture of Skull,	—	—	—	1	—	—
Wound of Abdomen with Protrusion of Viscera,	—	—	—	1 *	—	—
Frost Bite,	—	—	—	—	—	1

Of the cases tabulated above, 5 were fatal. These are marked with an asterisk. The case of gastritis in October had been under my care for a long time, and at last died suddenly with all the symptoms of perforation of the stomach following ulceration. The case of abdominal wound with protrusion of the viscera was hopeless from the first. The subject of it was stabbed with a knife on the left side between the umbilicus and the lower ribs. When I saw him some hours after the accident, 8 or 10 inches of the small intestine was protruding, and this was thickly coated with mud or some similar substance which had been plastered over it by a Chinese "doctor," who had been first summoned, and who, failing to retain the bowel after returning it, had adopted this plan of treatment. Having gently washed this coating away, I found that the gut was injured in three places, undigested food and much fluid passing through the wound. The injury was close to the stomach, for water, which the patient drank freely, was poured out almost as soon as it was swallowed. Awaiting a consultation with Dr. KUNDÉ and the late Dr. THOMSON, I injected 2 grains of morphia into the arm. When we met we agreed that the only chance, and a very poor one, was to allow the protruded gut to slough off, and establish an opening outside at the seat of the wound. Violent inflammation had already set in, and to stitch the wound in the bowel, and return it with an uncertain amount of the Chinese "doctor's" dirt, would have inevitably resulted in death. The patient died after lingering for 6 days, during which time large quantities of morphia were injected with little effect except that of relieving pain. As much as 10 grains daily did not produce sleep. The fatal case of pneumonia in February came under my care only a few hours before death. Both lungs were affected, and when I saw the patient the temperature in the axilla was 108°, pulse 156, and respiration 56.

There was thus a total of 394 cases of disease during the 6 months. Excluding the 2 cases of drowning and the one case of stabbing, there were but 2 deaths from disease.

K.—Dr. George SHEARER's Report of selected cases seen at Kiukiang during the half year *ended 30th June*, 1872.

I.—*Continued Fever* (Typhus mitior); *Crisis about the 14th day: Convalescence interrupted by an attack of latent or masked pneumonia: Resolution of the same within a period of 7 or 8 days.*—J. A.; aged *21*; Marine on board H.B.M.'s gunboat *Dove*; seen for the first time on February 10th 1872, with febrile symptoms. He wore a haggard, pinched and drooping expression, was somewhat confused in his intellect, had lost his appetite and strength, and felt 'sore all over.' The tongue was moist and covered with a white fur, the pulse somewhat quickened, but at the same time exceedingly small and depressed. Ordered a stimulant mixture of bark and ammonia.

Feb. 11th. Lay thoroughly prostrate and helpless in his hammock; the pulse manifesting a certain degree of reaction, being 90 and fuller and stronger.

Feb. 12th. Febrile symptoms more marked; mind more confused. Has difficulty in articulating properly, and his tongue is more dry and furred. Pulse 100. Captain JONES informed me that he had been ailing and drooping for above a week past, and that the first thing he noticed amiss with him was his inability to go through his exercise (at cutlass drill), seeming to forget the orders immediately they were delivered. *There is incipient mottling of the surface of the abdomen, from which I judged it to be about the* 10th day of the fever. Brought into sick quarters on shore in the evening, after which the pulse rose to 112, with free perspiration.

Feb. 13th. Morning.—No delirium or rambling during the night; pulse 120. Tongue covered with a moist silvery-white fur and bearing impressions of the teeth. Mottling less distinct. To have beef tea and wine at frequent intervals, bread and milk, and vinegar sponging. *Evening.*—Bathed in perspiration. Pulse 130, full and continuous so as hardly to be counted. Has been rambling and talking of his friends in London. Neither retention nor incontinence of urine, and bowels moved daily. There is slight bronchial irritation, and slight expectoration of frothy phlegm. Takes beef tea, bread and milk and port wine. Imperial drink ad libitum. A mustard and linseed cataplasm to be applied to the chest; brandy and egg-flip during the night, with orders to change his position from side to side at frequent intervals so as to avoid decumbency on the back.

Feb. 14th. *Morning.*—Perspired very profusely during the night and especially after taking the brandy-flip (4 oz.) and applying the cataplasm. This morning the skin is merely bedewed with a fine moisture. *Tongue moist, and mouth full of saliva, the extrication of which gives him much trouble. Rambled* a good deal during the night without being delirious, and passed water unconsciously once. During the *night took 4 glasses of port wine and 4 ounces of brandy with eggs. Pulse 120. The eyes are intelligent,* and he seems more composed than yesterday. *Evening.*—Fidgetty and rambling, wants to get out of bed.

Feb. 15th. *Morning.*—About the 13th day of the fever. Pulse 120, free from sweating, skin simply moist, tongue dry in the centre, expression more intelligent, and answers questions addressed to him, though often incorrectly. During the night had been rambling and restless, but dropped off to sleep, this and the previous night, at 4 A.M., sleeping till daylight. [At this point undoubtedly the crisis of the fever took place, but convalescence was interrupted by a latent pneumonia].

Feb. 16th. *Morning.*—14th day of fever. Expression quite bright, and answers questions intelligently. Pulse 108. Had less stimulants during the night, which was quiet and restful; obtaining proper sleep from 3 A.M. After taking a small dose of brandy and egg-flip he brought up a round worm some 5 inches long. Tongue covered with viscid mucus. *Evening.*—Some exacerbation of the fever and delirium.

Feb. 17th. Intelligent, but does not articulate well from the dryness of the mouth and tongue. Pulse small, 120. Fidgetty and restless in the night time with a remarkable degree of jactitation of the muscles of the arms and hands, resembling the involuntary movements in choreic cases. Yesterday bowels moved three times, to-day only once. *Evening.*—Though there is a certain subsidence of the pulse and

abatement of the heat, the delirium and fidgettiness is rather more marked, the jactitation of the arms and hands being so great that the pulse can with difficulty be felt at the wrist. He is subject to hallucinations which alarm him greatly. The heart's first sound seems muffled and weak, but the bronchial symptoms are relieved. Again in the evening I found him bathed in perspiration which appears to have made the pulse somewhat fuller and slower. To have a draught of 20 drops of solution of morphia with 20 drops of chloric ether.

Feb. 18th. Patient fell into a sound sleep 2 hours after taking the draught, and slept till morning, with one or two interruptions, when he asked for something to drink. Told me that last night he had his first proper sleep for a week or more, and that he has not been in his right senses for some days.

Feb. 19th. Draught procured him a good night's rest. Pulse 120; much less subsultus. *Evening.*—Full perspiration, and skin covered with sudamina. Quinine ordered.

Feb. 20th. Pulse 116. Teeth covered with sordes, tongue dry and furred in the centre. He is fretful and apt to cry; by no means in full possession of his faculties, and winces on touching any part of the abdomen. No signs of marked engorgement of liver or spleen. A fresh crop of sudamina has appeared on the groins and abdomen. At 2 P.M. face suffused with a bright scarlet blush, and though there is hardly any cough yet he brings up from time to time a few sputa of frothy viscid mucus. This, together with his retarded convalescence and full quick pulse (108), seemed to point to the existence of a masked pneumonia or broncho-pneumonia. Accordingly on percussing the chest I found that there was deficient resonance in the middle of the right back, where there was also marked deficiency of respiratory murmur. Higher up rhonchus, sibilus and mucous clicks were heard. A pint and a half of clear urine was draw off by catheter and tested. Temperature 90°, sp. gr. 1030, suspending a fine mucous cloud, highly acid reaction, free from albumen, rich in chlorides. The abundance of chlorides I took as an indication that this latent pneumonia was already in process of resolution. Nevertheless I prescribed an antimonial mixture with sinapisms, and apparently with the greatest advantage to the patient.

Feb. 21st. Pulse down to 100. Nervous agitation and crying together with subsultus altogether ceased. Tongue and teeth free from sordes. Percussion of right back decidedly dull, and respiratory murmur deficient; crepitant and mucous râles distinctly audible, and vocal fremitus increased. Some sudamina still visible; the mulberry rash with petechiæ gradually fading.

Feb. 22nd. Again had profuse night sweats which leave him feeble and exhausted. Pulse 100. To intermit the antimonial and take quinine with nitromuriatic acid. At 2 P.M. face and body bathed in perspiration, but pulse only 98 and temperature under tongue 98°. More sudamina visible. At 8 P.M. skin moist, pallid and cool; pulse about 90. Continues to take nourishment and wine well.

Feb. 23rd. Pulse about 80. More sudamina. Passed a good night after taking a sedative draught.

Feb. 24th. 8th day of the pneumonia and 21st of the fever. Slept soundly through the night without the use of morphia and without once wakening his attendant. Still very weak, and more sudamina visible. Pulse 80. Percussion in right back tympanitic or wooden. Moist crepitus abundant, and air enters the affected portion of lung freely. The pneumonic engorgement is in fact resolving fast. Urine of a dark straw colour, sp. gr. 1020, full of chlorides.

Feb. 25th. Slept soundly without either morphia or brandy. Pulse 80. No fresh sudamina. Body much emaciated, but percussion of right back good, almost natural, though there is still a little crepitus redux audible through the stethoscope. No sputa, no cough, chlorides abundant in urine, of which the sp. gr. is 1015. Heat under tongue 95°.

Feb. 26th. Pulse 80. Tongue moist and cleaning rapidly; slept well and takes food well; no sweating, no sudamina.

Feb. 28th. Able to sit up in bed and to eat animal food.

March 13th. The patient's convalescence on the whole has been remarkably slow. He continues haggard, thin and weak, with a singularly excitable quick pulse, ranging from 100 to 120. When he first enters the room it numbers 120, but after sitting down it falls to 96. Another day it was 96 on entering and fell to 84. But that his appetite keeps up and that he is free from cough I should suspect the

deposition of miliary tubercle in the lungs. He was ordered cod liver oil and port wine, with abundance of out-door exercise.

March 22nd. Patient at length begins to feel decidedly stronger, and at the end of the 6th week was able to join his ship, though to the last the excitable character of the pulse was maintained.

April 24th. Health completely restored.

II.—The case of W. B., also under treatment at the same time, from the the gunboat *Dove*, was one of mild continued fever without rash, which got well within a fortnight, and calls for no particular remark. There were no other cases of fever among the crew, and how these occurred is an absolute mystery, seeing that the sanitary condition of the gunboat was excellent, and neither typhus nor continued fever in any form was known to exist amongst either foreigners or natives at this port before, then or since.

These cases, eminently suggestive as they are, cannot be passed over without some comment.

1°. There can hardly be a doubt that these—the first more markedly—were cases of mild typhus. To the question whence derived I am unable to make any answer. If ever typhus originates *de novo* it did in these cases. And yet the mystery after all lies probably in some concealed fomites attached to old clothes or flannels locked up in one of the seamen's chests, and thus the contagion may have been imported from London and did not after all originate here.

2°. It is one of the most remarkable facts in the natural history of fever, that though the sensational and volitional functions of the nervous system are in a state of abeyance, the digestive system continues throughout in a state of the highest vigour and efficiency. The conclusion is irresistible that while the cerebro-spinal system is overpowered by the action of the fever poison, the sympathetic system which presides over the organic, involuntary and, so to speak vegetative functions of life, is merely stimulated by the same action. It would be more correct to say that the primary effect of the fever poison is irritant or excitant to the vaso-motor nerves (derived from the sympathetic) whence the constriction of the whole arterial tree with its terminal arterioles, evinced by rigors, chills and loss of temperature, the mass of the blood being thrown inwards upon the heart, spleen, liver and venous system. This is the first stage of the disease. This primary irritant and contractile state, of possibly a week's duration in typhus, of but a few hours duration in intermittents and remittents, though in these last often repeated, is succeeded by a state of paralysis of the functions of the vaso-motor nerves. Their controlling power over the arterial system being thus lost, the calibre of the blood vessels enlarges, and the now excited heart labours violently to propel the embayed and heated blood through the unnaturally patent channels of the relaxed arterial and capillary systems.

The experimental investigations of Claude BERNARD, BROWN-SEQUARD and a host of German inquirers have shown that section of the sympathetic nerves of a part at once induces paralysis of the vaso-motor nerves, which deprives the blood vessels of their inhibitory or controlling power. These consequently dilate, increased vascular excitement, heat and sweating being the results. I have observed in my own case (febricula) that after the febrile orgasm had passed and the actual excitement of the circulation was over, there still remained a degree of fullness, tension and throbbing of the arteries, showing that the proper inhibitory nervous influence was not yet recovered. The occasional utter prostration and tendency to syncope in cases of remittent fever is thus easily explained by the dilated state and want of tone of the arteries, yet this paralysis of the vaso-motor nerves is perfectly consistent with full secretory activity of the various organs, whence the flow of gastric, pancreatic, biliary, intestinal and urinary secretions is unimpeded. The functions of animal life, in a word, are maintained though those of the sensory, intellectual and volitional are in a state of abeyance. Dr. STOKES of Dublin indeed maintains that the assimilative process in fever is more active than in health.

3°. Our improved acquaintance with the physiological condition of fever patients therefore fully warrants the admirable axiom of Dr. STOKES—"support the strength and watch the local effects." The most marked distaste for food and the highest state of delirium do not justify the withholding of nourishment in every available form. We cannot cut short the fever but we sustain life until the disease has run its natural course. The necessity of feeding fever patients by night was well illustrated in the above case (1.)

4°. The wonderful tolerance of alcohol during the height of the disorder. All cases, however, are not alike, and in B.'s case, unmarked by depression and exhaustion, no stimulants whatever were given.

5°. May not the profuse sweating in this case explain the absence of high delirium?

6°. After the crisis of the disorder the patient went to sleep regularly between the hours of 4 and 6 A.M. I have frequently made the same observation in similar cases. The truth is, as has been shown by Professor LAYCOCK of Edinburgh, that this is the period in the 24 hours of least barometric pressure and the minimum degree of heat and electric tension. Then, too, the vital actions of the human body sink to their lowest, the respiratory movements, activity of the circulation and consumption of oxygen being all reduced to a minimum, and this natural subsidence of the respiration and circulation favours sleep. Professor LAYCOCK and Mr. HAVILAND of the Bridgewater infirmary have also shown from a large collection of statistics that the chances are 3 to 2 that death will occur at the period named. The whole subject (periodicity in disease) is worthy of more thorough investigation than it has ever yet received.

7°. The supervention of pneumonia, without cough, pain or rusty sputa, in fact wholly without the patient's consciousness, shows the necessity for exercising vigilance over the pulmonary organs in all typhus cases. It was highly interesting to observe the complete resolution of the disease within a period of 8 days.

8°. The singularly excitable nature of the pulse during convalescence—a condition of the circulation not unfrequently remarked as a sequel to febrile disorders in the East—I attribute to a certain hypersensitiveness of constitution or increased mobility of nerve-force induced by longer or shorter residence in an enervating subtropical climate like this.

III.—*Temporary Loss of Vision in Right Eye with fixed muscæ, insomnia and incipient symptoms of Angina Pectoris in connexion with Simple Cardiac Hypertrophy.*—The patient, a stout rosy-gilled man aged 38, came to me on the 11th of February last, complaining of sudden loss of vision in the right eye, of 12 days standing. He had been down river on Customs duty, and one bright day on taking up his glass to spy some native craft which were bearing down upon him, he found the sight strangely obscured in his right eye, objects being visible but, as it were, dyed black. He does not suffer from headache, nor is there any pain or congestion of the eye, and the pupil, which is moderately open, contracts naturally like that of the sound eye. He tells me that 15 years ago he had a bad attack of yellow fever with high delirium, during which he was blind for 5 days, and that 5 years ago he suffered badly from palpitation, the throbbing of the heart being visible, and accompanied with much uneasiness. At this period he was a heavy smoker and accustomed to the use of strong spirituous liquors. He got better of this attack within a month, but ever since has been conscious of something wrong with his heart though there is seldom any palpitation, uneasiness or dyspnœa, except when he is excited, over indulges in smoking, or over exerts his strength. He has also been extremely nervous ever since. Wakes often in the night with a wrenching sensation at the heart, as if it were twisting or contracting violently upon itself. This sensation, which he describes as rather alarming, obliges him instantly to sit up in bed cross-armed for relief. Every winter for 2 or 3 years past he has been subject to slight asthmatic and bronchial attacks with a hoarse clanging cough and occasional expectoration of coloured sputa.

He is at present suffering from a cold, a certain thickness of breathing, and dyspepsia with wakefulness at night. He is of a fleshy, plethoric habit, with considerable abdominal fullness, but without either hepatic or splenic enlargement. There is marked engorgement of the capillary vessels of the cheeks. Urine normal. Pulse full and strong, 80 to 90. The chest is well developed, and expands freely in respiration. Area of cardiac dulness much increased. Heart's sounds at the apex not very clear or distinct; second sound unduly loud at mid-sternum and under manubrium. There is strong pulsation in the carotids and visible lifting of the tissues at each pulsation. Such were the results of a physical examination of the chest, yet what chiefly distressed the patient was not anything the matter with his heart or lungs but only the loss of vision in the right eye and the persistent sleeplessness. The connexion however of these subjective symptoms with the state of the heart at once impressed itself upon my mind.

In walking he seems to be going down an inclined plane, and on entering a room inclines his head to the affected side, and by leering sideways obtains a partial view of objects. A dark disc, the size of a crown

piece, seems interposed between him and every object he looks at with the right eye; it has been equally large, black and stationary from the first. The pupil is perfectly contractile and readily dilates under the use of atropine, and the transparent media of the eye are perfect. The disc is not so dense as absolutely to blot out the view of objects, but these are barely visible, draped as it were in black, hence I should speak of the affection as an example of fixed muscæ dependent upon a congested state of the vessels in the retina, and that again upon an hypertrophic heart. The case is a rare one and interesting in several respects.

As there was a certain yellowness of the conjunctivæ with constipation, dyspeptic symptoms and other indications of bilious derangement, I put the patient on a course of blue pill and colocynth with vegetable bitters and nitromuriatic acid. Within 3 days he reported a very slight diminution in the density of the disc, though he still could not see to read, and a volume in his hand seemed very greatly reduced in size. Atropine has the effect of minimizing objects or making them seem more distant, but does not improve the vision. On the 4th day the bronchial symptoms were much relieved by special treatment, and on the 5th the action of the pills was hastened by a purgative dose of Epsom salts, after which he reported a still further thinning away of the cloud, so much so that he could read the large gilt letters on the backs of books. On the 7th and 8th days he reported the cloud or spectrum to have diminished to the size of a sixpence, but for more than a week past he had been all but sleepless, never obtaining more than an hour or an hour and a half of sleep any night, though he sometimes had a short nap in the daytime. Laudanum in doses of 30 or 40 drops was tried and found quite inefficacious in inducing sleep. Bromide of potassium alone and with tincture of cannabis indica was found equally inefficacious. Iodide of potassium with tincture of digitalis answered well for a time, but on the whole the best and only reliable sedative was found to be the hydrate of chloral in half drachm to drachm doses. Pulse steadily beating at the rate of 90, 84, 80. The large doses of iodide of potassium induced iodism and excessive flux of clear fluid from the Schneiderian membrane to the amount of a pint, with much sneezing. Ordered to paint iodine liniment over the præcordium and to take tincture of aconite in 5 drop doses daily, as recommended by WALSHE in cases of hypertrophy and disquietude of the heart.

He wakens occasionally in the night with a feeling of tightness or constriction in the epigastrium which is relieved by bending over towards the left side and squeezing himself together. At such times he is much troubled with flatulence, but on getting up the uneasy feeling at once leaves him. On making a further examination of the chest the evidence of cardiac hypertrophy is found to be quite conclusive, notwithstanding the general absence of acute symptoms of heart disease. This is accounted for by the nature of the enlargement, which is simple, uniform and affecting equally both sides of the heart. There being neither obstructive nor regurgitant murmur one may conclude that the valves are sound. The enlargement of the left side of the heart is inferred from the fact that the position of the apex is ascertained to be 3 inches below and to the outside of the nipple. Enlargement of the right by the square form of the dulness which extends right underneath the ensiform cartilage. The first sound is dull and muffled, the second accentuated along the whole length of the sternum. Clanging cough; pulsating carotids; pulse full, 80. It is remarkable that after 8 or 9 hours of refreshing sleep, after taking the chloral or any other sedative, the pulse rises to 84 or even 90. The chloral does not constipate. At the expiry of 6 weeks the patient wrote me that the pain in the præcordium had quite gone, that his eyesight was completely restored, that he could sleep at night without having recourse to sedatives, and, in short, that he felt himself for the present quite well.

IV.—*Opium Poisoning.—Two cases saved by the use of Strychnia; one fatal, within a period of 6 or 7 hours, brought to the surgery dead.*—The first was the case of a young man, aged 28, in the habit of smoking a mace of prepared opium daily. On account of a family quarrel he swallowed, on February 22nd, at 10 A.M., half a tael weight of native crude opium, equal to 6 drachms avoirdupois. He was brought to the surgery at 1.30 P.M., 3½ hours after taking the drug, half walking, half carried between two men who supported him on either side. The eyelids were somewhat swollen, and the pupils much contracted, tongue moist with a fine white fur, pulse considerably quickened—100 or more, hands hot, and general surface cold, but the patient was still perfectly conscious. This preservation of intelligence at an interval of 3½ hours after taking so large a dose of opium is to be attributed to the facts that he had vomited once a quantity of black

water which doubtless contained some portion of the opium, and that habit had rendered him more or less proof against the narcotic action of the drug. Opium, it is well known, is primarily stimulant to the heart and circulation, as also probably to some portion of the sensorium, and he had not got beyond this stage when he arrived at the surgery. I immediately administered emetics of sulphate of zinc, but failing to induce vomiting I used the stomach pump, by which time the whole of the drug would appear to have passed out of the stomach, since the fluid withdrawn had not the slightest odour of opium. Strong coffee was now given the patient to drink ad libitum, and he was kept walking about between two coolies. Though sorely tempted to try the counteractive influence of belladonna or the more recent method of treatment by strychnia (*vide* MAYOR's Experiments on Animals with Strychnia and Morphine,—*Lancet* for December 9th, 1871, and successful cases where morphia proved antidotal to poisonous doses of strychnia,—*Lancet* for December 23rd, 1871, and January 13th, 1872) I withheld everything but strong hot coffee and cold water, for which he craved as an intolerable thirst had set in. I wished if possible to leave the case to the vis medicatrix naturæ, but finding by 3 P.M. that he was getting more and more deeply under the influence of the drug, the pulse failing, being already under 90, the surface more and more chill, and the man almost falling asleep on his legs, while the pupils were contracted to a point, I administered $\frac{1}{8}$th of a grain of strychnia in solution as a draught, and within half an hour a second dose. He vomited freely after this and brought up some sedimentary stuff which may have been crude opium. At 4 P.M. I give him a third dose of the strychnia solution, the tongue being now coated with a thick brown fur as in convalescents from typhus. One effect of the strychnia seemed to be to impart tone to the stomach and so stimulate it to reject its contents. At 5 P.M. I gave a fourth dose. At 8 P.M. the pupils were still contracted but were slightly responsive to the stimulus of light; skin warmer; less drowsy, can talk quite intelligently. At 10 P.M., sitting up in bed with a pulse almost natural, in a kind of reverie but not asleep. Passed the night in this state and position. Walked home at an early hour next morning quite well.

I think if any one will take the trouble of comparing the rapid and thoroughly satisfactory recovery in this case, where a much larger dose was taken (6 mace against 4), with a case of spontaneous recovery recorded by me in the last number of these Reports, page 63, where recovery was delayed over a period of several days, and embarrassed by a dangerous attack of congestive bronchitis, he will come to the same conclusion with me, namely that strychnia is a true and perfectly reliable antidote to opium. As far as I know these are the first cases illustrative of this important fact as applied to the human subject.

V.—The second case was that of a young married woman, not an opium smoker, aged 21, who having quarrelled with her husband, swallowed 3 mace of crude opium on the evening of April 18th at 6 P.M. She was brought at 7 P.M. very pale and exsanguine, with contracted pupils and a strong inclination to sleep. Mustard emetics were administered, followed by strong coffee and enforced exercise. The vomited matter was free from any opium smell. I was strongly tempted in this case also, knowing how large a quantity of the crude drug it takes to kill in the case of Chinese, to trust to the mere effects of stimulation of the organs of sense and to the powers of the constitution. But at 9½ P.M. a change for the worse took place. There was marked sinking of the pulse, with cold sweats and ghastly pallor of the countenance. I thereupon gave $\frac{1}{8}$th of a grain of strychnia; a second dose at 10 P.M. and a third at 11 P.M. By 11.15 P.M. the pulse had recovered tone and the skin warmth, the cold perspirations ceased and the patient seemed much brighter and more intelligent. The good effect of the remedy was apparent within about an hour and a half, and was sufficiently marked to seem striking. There was still some slowness in the mental operations, and she tottered from side to side like one drunk when asked to get up and walk. By midnight, however, she was able to walk unaided across the floor, and the contraction of the pupils was beginning slowly to give way when I sent her home in a chair. She was reported to have slept till daylight, but not during the day, and, excepting for a painful dyspeptic feeling, to be not much the worse next day.

VI.—The third case was that of a man aged 38, an opium smoker who, having been sharply reproved by his father for the practice, swallowed a fatal dose of the prepared extract in order to spite his father. He had been drinking samshoo during the evening, and after swallowing 4 mace of the prepared extract

continued his potations, the certain effect of which must have been to present the poison to the absorbent system in a much more soluble form than if it had been merely suspended and partially dissolved in water. He took the drug at midnight, yet with the usual apathy and stupidity which characterises the Chinese in matters of life and death, the relatives delayed informing me of the circumstance till the following morning. When they brought him to the surgery at 7 A.M. he was stark and stiff, the pupils moderately dilated, and the tongue covered with a dry fur. In vain they asked me now with some show of earnestness to call him back to life. I told them the best thing to do was to procure him a coffin, at which they shouldered the corpse and, chuckling and laughing at the sudden contrast of ideas, carried him away.

VII.—*Measly Pork.*—On March the 16th I was called to see some half dozen members of the foreign community who had inadvertently eaten a quantity of measly pork chops cut from an English pig. The quality and flavour of the article were so unanimously pronounced excellent that a fresh supply was called for, and the leg or ham was cut into, when the party discovered their mistake, the muscular substance throughout being thickly sprinkled with cysticerci like so many sago-grains. The majority of these were white and firm, little nodules of coagulated albumen with membranous sacs and circlets of hooks attached, but some which had been exposed to a minor degree of heat were in a much fresher and more transparent state. In the case of the former which had been subjected to a heat of not less than 200° to 300° the vitality was doubtless completely destroyed so as to render the germ incapable of further development, but this may be doubted as regards the latter. To render assurance doubly sure and prevent the possibility of such an occurrence within the human economy, notice to quit was immediately served upon the new tenants with peremptory and decidedly operative effect. The "cysticercus" or "measle" in pork is well known to be the hydatiform or larval condition of the tænia solium.

VIII.—*Treatment of Burns with a strong solution of Nitrate of Silver.*—Having for a long time been disappointed by the recognised treatment of burns by means of carron oil and cotton wool, and acting upon a suggestion of Mr. F. C. SKEY of St. Bartholomew's Hospital, I adopted the above plan in the case of an infant aged 6 months, who lately suffered from an extensive burn of the hip and side. The child was brought to me on the third day in great pain with extensive grey and yellow sloughs of dead skin on the broken surface. The sloughs being removed I first applied a strong solution of nitrate of silver (20 grains to the ounce) by means of a camel's hair pencil, and then a piece of lint soaked in a weaker solution (4 grains to the ounce), covering it with oiled silk and applying some cotton wool and a bandage. The child was brought back in a week with the sore half healed, the dressing having been changed daily in the meantime. I again painted the surface with the strong caustic solution in which a little carbolic acid had been dissolved, and wrapped it up as before. Within a fortnight the entire raw surface was cicatrised over. I contend that this plan has several advantages over any other:—

1°. It affords the greatest amount of relief from pain by the formation of an albuminous coagulum upon the surface, which protects the nerves and tender granulations from the action of the air or external pressure.

2°. It ensures the most rapid and expeditious cure. Under the old method the case in question must have been a month at least under treatment, and have gone through much more suffering. The nature of the accident is such as to weaken the vitality of the part and induce subsequent weak action, conditions which are much better combated by the stimulant than by the emollient method, while the antiseptic nature of the remedy used prevents the unwholesome discharge from the decaying sloughs injuring the granulating surface.

IX.—XII.—*Cases of Spasmodic and Organic Asthma.*—1. Case of spasmodic asthma followed by urticaria and intermittent fever. Patient has been subject to attacks of spasmodic asthma for 12 months, and though quite a young man has acquired the gaunt frame and round shoulders of the asthmatic. He suffers most frequently in the summer season, and contracted the disease by getting chilled while asleep in the open air. The attacks usually last for 3 days; the attack for which I treated him lasted but 30 hours. Sharp catharsis and vomiting were first induced by means of croton oil, and this was followed by doses of lobelia, sulphuric ether and antimonial wine. After recovering from the asthmatic attack he suffered badly

from urticaria, the eruption appearing in great raised patches, with apparent swelling of the whole body, and intolerable heat and itching of the surface. As the swelling and eruption began to subside there came on great irritation of the stomach and tearing pain in that region, with a tendency to reject everything in the shape of food. There was evidently a kind of erythema of the gastric mucous membrane, which however was speedily relieved by a mixture of bismuth with soda and hydrocyanic acid. It would be interesting to consider whether this was an illustration of sympathy between homologous structures, or of a poison circulating in the blood and acting equally upon both the skin and gastric mucous membrane. Finally the patient suffered an attack of intermittent fever, which yielded readily to quinine, after which his convalescence was uninterrupted. By way of fortifying his constitution against the constant recurrence of these asthmatic attacks, he was recommended the use of cod liver oil and the cold douche, and with such advantage that he has not had a single attack of the asthma, or more than a very short-lived one, since that time, a period of nearly 12 months.

2. Case of spasmodic asthma in an opium smoker. This man is subject to a slight degree of bronchorrhœa with thickness of breathing from time to time, and being seized with a paroxysm of spasmodic asthma of great severity betook himself to the opium pipe with a view to relief. This had the effect of aggravating all the symptoms, and he was brought to me in a very alarming state. Aware of the constringent effect of opium upon the capillary vessels, and its power in locking up the bronchial secretions in pulmonic cases where given by itself, I gave the man instantly a potion containing belladonna as an antidote to the opium, combined with antimonial wine and spirit of sulphuric ether. Relief was instantaneous and permanent.

3. Case of aggravated organic asthma, with fully developed emphysema, but without dexiocardia or depression of the heart. The patient, a schoolmaster aged 37, had suffered for a period of 11 years from asthma, with cough and expectoration. The dyspnœa is constant though worse at certain times. He is worn to a skeleton, is capable of but very little exertion and would seem to most persons to pass his existence in a state of profound misery. A physical examination of the chest yielded the following results:—Percussion of right apex, wooden or dull; of left front, tympanitic; respiration, tubular in right front, especially near the border of the sternum, the expiratory murmur being everywhere harsh and prolonged, and exceeding the inspiratory; creaking râle and most imperfect respiratory murmur throughout left front, in the neighbourhood of the heart almost equal to silence; loud tubular breathing audible in lower right back, with coarse crepitus higher up; in left back rhonchus, sibilus and creaking râle. The respiration is almost entirely abdominal, 32, or double the usual number, while the pulse at the wrist is rapid and small, 100, and the extremities are cold and damp. From the emphysematous state of the lungs, the chest is all but immovable and respiration is chiefly accomplished through the action of the diaphragm. The sucking in of the trachea and the action of the scaleni muscles in fixing the upper ribs during inspiration are most marked. The cardiac action is excited, vehement and loud with a harsh mitral bruit at the apex (indicating mitral incompetency) and there is distinct reduplication of the second sound at the base from want of perfect synchronism in the constituent elements of the diastolic sound. There is no engorgement or pulsation of the jugular veins, from which one may safely infer the competency of the pulmonary and tricuspid valves. In the third and fourth intercostal spaces a distinct thrill is perceived by the hand with each cardiac pulsation. This valvular thrill or "purring tremor" has been clearly traced by Dr. WALSHE [*Diseases of the Heart*, 3rd Ed. p. 36] to insufficiency of the mitral valve with dilated hypertrophy of the left ventricle, precisely the conditions existing in this case. Nevertheless there is no displacement of the heart downwards or to the right as is commonly the case in aggravated pulmonary emphysema, which is certainly one of the most extraordinary features of the case. It is in all probability to be accounted for by an old attack of pericarditis which has glued the heart and its sac firmly to the chest-wall by fibrous adhesions so as to prevent the possibility of any displacement by the dilated cells of the encroaching lung.

Some remarks which I had intended to make on chronic fever or febricula, the bugbear of residents in subtropical climates, and also on the operation of skin grafting, I must withhold for another occasion.

L.—Dr. Edward HENDERSON's Memorandum on Steppe Murrain in Shanghai.

My attention was first directed to disease among horned cattle in Shanghai in the autumn of 1868. At that time many animals stalled within the Municipal limits died, and considerable apprehension was felt lest the public health should suffer from the diseased meat which might find its way into the shops of native butchers. Dr. THIN, in a letter addressed to the *North-China Daily News*, gave the particulars of a visit which he paid to the slaughter-houses in the neighbourhood of the New Cemetery, on the 21st of October in that year. His visit was made with a view to the examination of some diseased beef regarding which he had received special information. The peculiar characters of the meat being fully detailed, Dr. THIN went on to describe the morbid appearances which he noted in the body of a sick cow, slaughtered at his request, when apparently *in the first stage of the disease*:—

The heart and lungs were healthy. The stomach was distended with fluid and a quantity of food that had been there for some time. Its internal surface was congested and perfectly black throughout. The outer covering of the intestines was in the first stage of inflammation, that is to say, peritoneal inflammation was setting in.

Dr. THIN further stated that the disease was considered by the natives to be "ma ping" (blood disease,) and that it was recognised by them as of common occurrence at that time. "They (the Chinese) say that "the appetite fails for several days, and then the animal droops and would soon die, but that as soon as the "disease is unmistakeable it is slaughtered for food." It was not at that time specially my duty to investigate such matters, but I nevertheless felt sufficiently interested in them to prosecute the enquiry commenced by Dr. THIN, so far as time and opportunity permitted. On the 4th of December 1868, I published the result of my investigations. I had altogether under observation three animals suffering from the disease, two bulls of the common breed of small native cattle, and a buffalo. Of these three cases two obviously resulted from contagion. The symptoms presented by all three were similar; I quote from my published narrative:—

1st, An appearance of great lassitude and increasing weakness, evidenced by listless movements, low carriage of the head, and depression of the ears. 2nd, A staring condition of the coat. 3rd, Refusal to take food, and chewing of the cud discontinued. 4th, An accelerated pulse. 5th, Diarrhœa. 6th, As the disease progressed an uneasy restlessness indicative of pain, probably abdominal, and laboured breathing.

Postmortem examinations were made in each case as soon as possible after death; I give the particulars as they were recorded at the time:—

The first stomach in all cases was found distended with the food last taken, the process of digestion having been, I suppose, arrested by the onset of the malady. The spleen was somewhat softened in all cases. The gall-bladder was distended in the first two cases with a brownish yellow fluid differing widely from the clear green liquid which ordinarily occupies that viscus; in the third case it contained, but was not distended by, similarly altered bile. The condition of the intestines in the three cases deserves a separate description. In the first, the rectum and lower part of the descending colon had scattered here and there over their internal surface a number of raised points of a dark blue colour about the size of a large pin's head; there was little or no congestion, but the summits of one or two of these points were ulcerated. In the second, precisely similar blue points were present in much greater numbers, again occupying the rectum and descending colon, while the entire extent of the lining membrane of the large bowel was intensely congested, more markedly so in the regions of the cæcum and lower part of rectum. Many of the blue points were the seat of minute ulcerations. In the third, a large water buffalo, the blue points were absent, but intense congestion of the mucous membrane extended up to and included the last stomach, while in some places sloughing had occurred. The brains and spinal cords were not examined. The other organs not named were found to have a natural and healthy appearance.

The last statement made in this record requires correction; not suspecting the existence of Steppe Murrain in Shanghai, I omitted in these postmortems to examine the mucous surface of the nostrils and windpipe.

Before the beginning of 1869 the disease seemed to have entirely disappeared from Shanghai and its neighbourhood; and although I am now informed that it has been of yearly occurrence since, the first fresh cases which I myself saw were brought under my notice in March of the present year. My informants who assert the regularity of its return are not able to confirm their statements by records of examinations after death, but I am assured by them that a form of disease presenting precisely similar symptoms to those which I have now daily opportunity of observing, occurs annually in Shanghai, extends variably, and has proved in past years as now almost certainly fatal to all the animals which it has attacked.

On the 25th of March 1872, Mr. KEELE, Municipal Market Inspector and Dairyman, informed me that disease had broken out among his cattle, and that from the symptoms and the rapid failure of strength exhibited by the animals attacked, he feared he was likely to lose a large number. Already two had died. He was anxious to know whether the disease was contagious, and whether anything could be done in the way of treatment. He had separated those already affected from the rest of his stock. On the morning of the 26th I visited the paddock in which the sick cattle were confined, and saw there some 12 or 15 animals in various stages of what appeared to be a malignant specific fever.

Mr. KEELE's stock consisted on the 14th of March, of 38 head of cattle, viz.: 17 cows, 14 heifers, 2 calves, 2 bulls, and 3 buffaloes. The following tabular statement gives, without reference to pathology, some of the main features of the epidemic as it affected those animals, shewing a sequence of events which I am anxious to lay clearly before my readers, but which I find difficult to arrange distinctly in a continuous narrative :—

DESCRIPTION OF ANIMAL.	DATE OF SICKENING.	DATE OF DEATH.	REMARKS.
1. French Heifer ex *Hoogly*, *	March 13th	March 18th	
2. do. do. *Provence*,	" 19th	" 24th	
3. do. do. *Alphée*,	" 20th	" 26th	
4. do. do. *Donnai*,	" 23rd	" 26th	
5. English Cow,	" 23rd	" 28th	
6. Australian Cow,	" 23rd	" 28th	
7. Calf,	" 23rd	" 27th	3 months old. Killed.
8. do.,	" 23rd	" 24th	6 or 7 weeks old. Killed.
9. Shanghai Heifer,	" 24th	" 27th	
10. do. do.,	" 24th	" 26th	
11. do. Bull,	" 24th	" 26th	
12. Buffalo,	" 24th	" 27th	
13. do.,	" 24th	" 27th	
14. Australian Cow,	" 24th	" 28th	
15. French Heifer ex *Hoogly*,	" 24th	" 27th	Killed.
16. Calf,	" 24th	" 24th	1 month old. Killed.
17. Shanghai Heifer Calf,	" 24th	" 26th	6 or 7 months old.
18. French Heifer ex *Meikong*,	" 26th	" 27th	Killed.
19. Australian Cow,	" 26th	" 28th	
20. English Bull,	" 26th	—	Recovered.
21. French Heifer ex *Alphée*,	" 28th	April 1st	
22. Australian Cow,	" 28th	" 3rd	
23. Shanghai Cow,	" 28th	" 4th	
24. Australian Cow,	" 29th	" 4th	
25. Shanghai Cow,	" 31st	" 2nd	
26. do. do.,	" 31st	" 4th	

On the 1st of April Mr. KEELE removed the 13 animals which the disease had spared, to sheds situated at a distance from their old quarters, and by this precaution fortunately succeeded in preserving a remnant of his stock. Of all the 26 animals attacked, but one, an old English bull, recovered; the 5 killed were all evidently hopelessly sick.

* These are the names of the vessels from which Mr. KEELE obtained the animals in Shanghai. It will be seen that they all belong to the French mail service, hence the common but erroneous impression that the disease was introduced from France.

Among the sick cattle visited on the morning of the 26th March the following symptoms specially attracted my attention. Pyrexia, indicated by a quickened pulse, and by the eagerness with which those animals in what appeared to be the earlier stages of the disease sought to cool their bodies in a pond which occupied the centre of the paddock; cessation of rumination, not confined to those apparently most seriously affected; depression of vital energy, shewn by low carriage of the head, drooping of the ears, coldness of the extremities, and the indifference with which the greater number regarded the approach of strangers; a profuse watery quasi-dysenteric discharge from the bowels in what appeared to be an advanced stage of the disease; a muco-purulent, in some cases blood-stained, discharge from the nostrils; a watery discharge from the eyes and mouth; in a few a restlessness indicating pain, probably abdominal. In effect I then observed all the principal symptoms which distinguish that particular form of Murrain commonly denominated Rinderpest, and indeed only required the evidence furnished by the bodies after death to render the diagnosis complete. This evidence was not immediately forthcoming however, for, although 3 of the 15 animals visited by me on the morning of the 26th were dead by the afternoon of the same day, the hurried and incomplete postmortem examinations which I then witnessed, in which the lungs and intestines were alone examined, left me still undecided as to the exact nature of the disease. Two of the three seemed to have died without a struggle, their attitudes indicating natural sleep rather than death; in the third the limbs appeared to have been slightly convulsed. One, a cow, was within a few weeks of calving, she had not miscarried. The lungs and pleurae were free from inflammation in all three. I noted, when the abdominal cavity was opened, an appearance as of commencing peritonitis. There were marked congestion of the mucous lining of the intestines, and a viscid muco-purulent secretion adherent to its surface, with blood extravasations in the sub mucous tissue. I observed also superficial ulceration in the neighbourhood of some of the solitary glands, the situation of which was indicated by a congested circle of mucous membrane —a raised blue or purple spot.

During the week which followed I had ample opportunities for extending and verifying my observations. Of the postmortem examinations made among Mr. KEELE'S cattle, at which I assisted, I select one as a fair example of many. I quote almost verbatim from the original record :—

An Australian milch cow, marked No. 22 in Table. First refused to feed on Friday, March 29th; died on Wednesday, April 3rd, the fifth day. Secretion of milk markedly diminished from the first. Before her seizure she yielded some twelve bottles a day, but on Monday, the third day of her illness, only three quarters of a bottle could be obtained, and that with difficulty. Mr. KEELE tells me that there has been no discharge from the nostrils. (See below).

Examination of carcase 4 hours after death. Postmortem rigidity well marked, position indicating some degree of convulsive struggle in death. Cavity of nostrils filled with a thin purulent and very offensive fluid; nearly a pint of this in each nostril. Mucous lining dirty red and leaden coloured; on its surface one or two patches of yellow muco-purulent somewhat adherent exudation or deposit, covering portions of the membrane which appear finely granular—superficial ulceration—denuded of epithelium. Mucous membrane covering epiglottis and arytenoid cartilages deeply injected, dirty red in colour and mottled over with blue points as of blood extravasated somewhat deeply in sub-mucous tissue; more superficial extravasations on free edges of these cartilages. Laryngeal mucous lining similarly altered in colour, blood extravasations in sub-mucous tissue. Much muco-purulent quasi-diphtheritic or croupous exudation situated on patches of superficially ulcerated mucous membrane, most abundant at base of epiglottis and on under surface of vocal cords. Tracheal lining much reddened and the seat of numerous blood extravasations; the tube itself filled with abundant white or pinkish froth. Lungs and pleurae free from inflammation; from the former much dark venous blood ran out on section—mechanical hyperæmia. The froth noticed as occupying the trachea extended into and occupied the larger divisions of the bronchi. No ulcerations seen on mucous lining of mouth. Tongue covered with scattered raised bright red papillæ, here and there the seat of commencing ulcerations; these were confined to the anterior third. On opening the abdominal cavity the intestines, especially the small gut, appeared pink or reddish and purple as in the first stage of peritonitis, but the glossy smoothness of the membrane was unaltered, and there was no exudation of lymph. The mucous lining was much congested and variously discoloured, generally of a dirty red or purplish colour. Numerous sub-mucous blood extravasations were observed. The surface of the membrane was widely covered with an adherent viscid muco-purulent secretion or deposit. The special glandular lesions noted in so many of the other cases were not observed in this instance. The stomachs were not examined.

While engaged in these investigations among Mr. KEELE'S stock, rumours reached me from all sides of the prevalence of the disease among the native cattle in or near Shanghai, and accordingly, feeling it my duty to bring the matter fully before the members of the Council, I published my first official Memorandum on the 3rd of April:—

MEMORANDUM No. 1.

Horned cattle are at present suffering in Shanghai from epidemic disease. One foreign owner has lost during the past ten days 22 cows out of 35, and 2 Buffaloes out of 3. The disease is true Rinderpest or Steppe Murrain. It is highly contagious; rapidly and almost certainly fatal. Treatment appears to be useless, and no reliance can be placed upon any special drugs or combinations of drugs. Affected cattle should be slaughtered at once, and the bodies buried. The flesh of animals suffering from this disease is unfit for food; and milk yielded by sick cows ought not to be drunk.

The symptoms observed in this epidemic are briefly as follow:—

In the first stage of the disease the animal eats badly or altogether refuses to feed; the bowels are usually constipated; the coat stares; the ears droop, and the movements of the body are sluggish. Thirst is not a marked symptom at first. If a milch cow suffers, the milk is markedly diminished in quantity, and soon ceases altogether to be secreted.

In the more advanced stages the animal lies down, breathing hurriedly and laboriously. A thin purulent discharge escapes from the eyes, nose and mouth in greater or less quantity. Thirst is great. A profuse watery dysenteric diarrhœa sets in.

The average duration of the disease, from the onset till the fatal termination, is six days.

The appearances after death are briefly as follow:—

The most marked lesions are found in the respiratory passages. The mucous membrane lining the nostrils and windpipe is dirty red or leaden coloured, exhibiting here and there patches of a yellow muco-purulent deposit adherent to its surface, and covering portions which appear finely granular—denuded of epithelium. These patches of deposit are most abundant in the larynx. The lungs are frequently congested throughout: the divisions of the bronchi filled with an abundant white froth. The intestines were more or less inflamed in every case examined. The mucous lining was congested, and exhibited in some cases appearances similar to those observed in the air passages. The small intestines appear to be chiefly affected.

There is great difficulty in tracing the extension of this disease among cattle owned by natives. Mr. KEELE, the Council's Market Inspector, is actively engaged in making inquiries.

SHANGHAI, *3rd April*, 1872.

Up to the 16th of April my opportunities for observation were limited to the animals attacked in Mr. KEELE'S sheds, and, feeling certain that the disease was not confined to his stock, I was surprised that so long a time should have elapsed before other cases from outside came under notice. A strict watch was kept over the sheds of the native cattle dealers, but nothing definite was discovered.

Mr. WARDEN, of Messrs. RUSSELL & Co., kept at this time three milch cows and a calf, stalled on Messrs. RUSSELL & Co.'s premises, but led out daily to pasture in the suburbs. Of one of these cows, Mr. KEELE told me that she was in the habit of coming about his premises, sometimes coming quite inside his compound, and that not many days before his cattle were attacked he had had her driven out of his paddock. Since the disease had first appeared he had seen her and the other cows belonging to Mr. WARDEN feeding on the Old Race Course on part of the pasture where his cows had been. On the 3rd of April I learned that this cow was ill; she died on the 8th with, report said, symptoms similar to those exhibited by Mr. KEELE'S cows. On the 16th the calf died, and along with Dr. LITTLE I witnessed a hurried examination of the carcase. We were told by Mr. WARDEN'S coachman that the animal had been ill for three days; had been running at the eyes and nose and had had diarrhœa; that the ears had been cold and drooping. The mucous membrane of the nostrils, larynx and trachea was discoloured and congested, the bowels appeared externally as if in the first stage of peritonitis, but were naturally glossy and free from deposit of lymph. The lungs and pleuræ were healthy.

On the 22nd of April the mother of the calf was taken ill, and I visited her in her stall. She had been sick and refusing food for three days. She was very listless and stupid looking. The secretion of milk had almost ceased. The nostrils were discharging although not profusely. There was a little dysenteric purging. Her ears were cold and drooped. Her pulse was quickened. She was removed at my request to a stall in Hongkew and closely watched. She died on the 25th, her life apparently prolonged by the use of porter, several bottles of which were daily poured down her throat. The postmortem examination was made 7½ hours after death, in presence of Drs. JOHNSTON and MACGOWAN. The morbid appearances were peculiarly well marked in this case. Mr. WARDEN'S third cow was removed to other quarters, and

escaped the contagion. Evidence now began to accumulate on all sides proving that the disease was not confined to foreign cattle or limited to particular sheds. Referring to my notebook I find the following entries :—

April 10th.—I learn that a cow died on board the P. M. S. S. *New York* between Shanghai and Yokohama. She was shipped in good health on the 26th March and died on the 29th. She was taken from one of Mr. KEELE'S sheds to which the disease had not extended, but in which it subsequently appeared. Along with her stable companions she was carefully separated from the affected cattle. A sheep stalled on board ship in the same pen with this animal died also at sea.

April 24th.—The Larynx and about two inches of the trachea of a buffalo which was being cut up in a knacker's yard was brought to me by the Market Inspector. Mucous lining intensely congested, œdematous, throughout of a bright pink colour save at the attached margin of the vocal cords where it was purple or leaden coloured, in this situation denuded of epithelium and in two points quite destroyed by ulceration. Between the arytenoid cartilages a patch of quasi-diphtheritic exudation or deposit adhering to a surface denuded of epithelium.

May 13th.—Saw larynx of a buffalo killed beyond the Sinza village, it was said in consequence of injuries received from a fall. Mucous lining much congested, a superficial but distinct patch of ulceration at base of epiglottis.

May 21st.—Inspected larynx and part of the great gut of a bullock, one of two said by the owners to have come from Ningpo. Said also to have died on board the boat in which it was conveyed to Shanghai. Laryngeal and tracheal mucous surfaces intensely congested and in patches denuded of epithelium. Much venous congestion of epiglottis. Bowel lining membrane also much congested, the longitudinal folds in the large gut appearing as red lines on the surface of the membrane.

June 12th.—Inspected the windpipe of a bullock taken from a butcher's shop in Passinkew. This is characteristically inflamed, the mucous lining coloured pink and purple and appearing granular.

June 26th.—Larynx and trachea of an animal just slaughtered, brought to me by the Market Inspector. Tracheal mucous membrane streaked red and purple, generally of light vermillion tint, here and there patches of adherent exudation. Laryngeal lining less markedly congested, surface finely granular.

June 27th.—A sick bullock, taken from the same shed in which the windpipe was found on the 26th, was stalled in Hongkew in the morning, and died at one P.M. Postmortem examination 2 hours after death, Drs. JOHNSTON and MACGOWAN present. Mucous lining of nostrils leaden coloured. Laryngeal mucous membrane much congested. Epiglottis much venous congestion. Tracheal lining streaked with red lines, much congested. Lungs and pleuræ healthy. Peritoneal investment of stomach and bowels as in first stage of acute inflammation, without roughening or exudation. Mucous lining of bowel congested throughout, studded here and there with livid spots on mucous membrane marking the situation of solitary glands. Here and there patches of superficial ulceration. I am informed that the dysenteric purging was unusually severe before death ; coldness of the extremities a very prominent symptom.

June 29th.—Visited the cattle sheds and slaughter-houses opposite the Ningpo Joss House with M. CHARRIER, the Market Inspector for the French Concession. There witnessed the postmortem examination of the carcase of a bull dead after 6 days illness. The lungs and pleuræ were healthy. Characteristic appearances were noted on the mucous surfaces, including exudation, discolouration and superficial ulceration. The bowels had, on opening the peritoneal cavity, the usual appearance as of commencing peritonitis. I observed two blue or rather purple raised spots on the surface of the intestinal mucous lining—enlarged glands. At the same visit I was shewn two foreign Shanghai bred milch cows which require some special description; they occupied the same shed:—

A.—A grey cow. Looks listless and ill. Ears drooping. I thought the natural secretion from the nostril increased, but there was no appearance of either pus or blood.

B.—*A white cow. Lying down. Ears cold and drooping. Breathing very laborious, the expiration a short* grunt. As I watched her she laid her head down and seemed dying. I thought she would scarcely live till morning. I thought the secretion from the nostrils in this case increased.

June 30th.—Visited M. CHARRIER'S stable to which cow *A* had been removed. She was lying down and looking very sick. Ears cold and drooping. Secretion from nostrils increased but simply watery. Breathing laborious, the expiration a grunt. The vaginal mucous membrane inflamed, of a bright red colour, superficially ulcerated and covered with patches of muco-purulent secretion. At this visit I was shewn parts of cow *B* which had died, as was anticipated, on the night of the 29th. The mucous lining of the nostril appeared nearly natural, but there was one patch of about the size of half a dollar leaden coloured and roughened. The laryngeal and tracheal linings were congested, discoloured leaden and purple. The mucous lining of the bowel throughout seemed softened and œdematous, was dirty red in colour and covered with an adherent viscid scanty secretion. It was in this case that for the first and only time I thought I could detect indication of pneumonic mischief; my examination was however very superficial as I did not handle the specimens.

July 1st.—Cow *A* died this morning at M. CHARRIER's stable. Postmortem examination an hour after death, Dr. JOHNSTON present. The characteristic appearances on the mucous surfaces were all well marked, and included congestion, exudation and superficial ulceration. In this case the lesions of the intestinal glands were peculiarly well marked, their cavities were filled with a cheesy looking exudation which protruded from the mouth of the gland on the surface of the mucous membrane. The peculiar appearance as of commencing peritonitis was well marked. The ulceration and congestion of the lining of the fourth stomach were extensive.

July 10th.—Visited with Mr. KEELE a shed in Hupeh Road which contained two bullocks. Three animals were originally stalled there but one had died a day or two before, Mr. KEELE believed, of Rinderpest. One of the two remaining appeared to be ill, he was refusing food, the ears were cold and drooping, discharge from the nostrils natural.*

July 11th.—The sick bullock seen on the 10th is worse. The nostrils discharge much watery mucous tinged with blood. He refuses to eat, the ears are warm but still droop. Pulse 70. Bowels constipated. Drs. JAMIESON and LITTLE visited him with me.

July 12th.—The disease is still progressing in the case of the animal just referred to. Constipation is now exchanged for diarrhœa, the motions, when I visited him, were profuse, very watery and dysenteric. The Chinese owners say he is getting better as he is now able to feed, the truth being that the animal is only sucking the water out of a liquid mash which they have given him.

July 14th.—The bullock died on the night of the 13th. Postmortem examination, at which Drs. JAMIESON and LITTLE were present. The lesions were characteristic and confined to the mucous surfaces. The lungs and pleuræ were healthy.

July 16th.—Shewn to me by Mr. KEELE, the larynx, trachea and a portion of the bowel taken from a bullock slaughtered at Passinkew. Tracheal mucous lining much congested, purple and pink discolouration. Laryngeal lining livid. Purplish discolouration of mucous membrane of bowel. Situation of intestinal glands indicated here and there by raised points of congested membrane. Here and there dark coloured particles adhering to the surface of the membrane, apparently the expelled contents of the solitary glands. I advised Mr. KEELE to seize the carcase from which these specimens were taken, and the case, in consequence of this seizure, was brought before the Supreme Court. The owner of the bullock pleaded that the beef was illegally confiscated, being sound and in good condition, he and his friends affirming, after the usual caution, that the animal was in perfect health when slaughtered. I stated that in my opinion the animal was suffering from Rinderpest when slaughtered, that it was scarcely possible for the cattle dealer to have overlooked the fact of its being unwell, and that the beef taken from the carcase was quite unfit for human consumption.

July 18th.—Visited the cattle shed in the Hupeh Road with Dr. MACKENZIE (P. M. S. S *New York*). The black bull, the companion of the one which died on the night of the 13th instant, is now shewing marked signs of the disease. He was lying down when we visited him, and appeared very dull and listless. Breathing laboured. Profuse watery muco-purulent discharge from the nostrils, and a scanty watery discharge from the eyes. Had been purging a good deal.

July 19th.—Postmortem examination of the black bull some 6 hours after death. Drs. JAMIESON and MACKENZIE present. Appearances on the mucous surfaces characteristic as in the other cases. The diphtheritic or croupous exudation in the larynx and trachea was unusually abundant. Lungs and pleuræ healthy.

July 31st.—Visited a rice mill at Passinkew, separated only by a bamboo fence from the shed in which the bullock was slaughtered on the 16th inst. Saw there a sick bullock which was said to have refused food for three days; the animal is evidently affected with the disease, and cannot live long; the nostrils and eyes are discharging a greenish yellow matter; dysenteric purging is going on; he has ceased ruminating; his ears are cold and drooping, and his head depressed; he is very listless and allows me to handle him freely. There is another bullock in the same shed which is evidently sick, but he is still feeding and ruminating.

August 1st.—The first bullock seen yesterday died this morning at 6 o'clock. The body was opened in my presence at half-past nine. All the characterstic signs of Cattle Plague were found. The ulceration of the mouth and

* The following paragraph appeared in the *North-China Daily News* of August 2nd:—

"A case now being prosecuted at the Mixed Court shows that Rinderpest is not the only danger to which cattle are "liable. Two coolies, in the employ of a mill-owner who uses bullock power to drive his mills, are charged with causing the "death of four of the animals by forcing them to eat broken nails in beancake. Spite prompted the outrage, the master having "had occasion to reprimand the men. The cause of death was discovered by examining the animals after death."

The coolies admitted the offence and were punished accordingly. The owner was asked privately to state the symptoms of illness which he observed among his bullocks, and gave the following:—The animals ate at first a little grass, but afterwards refused all food; at first they made little dung, but afterwards passed watery motions mixed with blood; their ears drooped as the illness progressed; they died on the fifth day. A native butcher examined the carcases and discovered the cause of death. The mill in which this occurred is situated in the immediate neighbourhood of the shed in the Hupeh Road where the three animals referred to in my diary on the 10th of July were stalled.

the lesions of the fourth stomach were unusually well marked and extensive. *All* the mucous surfaces in the body *were affected. There was the usual appearance as of commencing peritonitis.*

August 3rd.—Visited the cattle sheds at Passinkew. The second bullock belonging to the rice mill, and noted on July 30th as shewing signs of illness, is now very sick, he has not eaten for three days, his eyes and nostrils are discharging a green purulent mucus, his ears are cold and drooping, dysenteric purging has commenced. A large number of fine bullocks have just been driven in from the country, and are waiting in a dealer's yard to be bought up by the butchers; there are three among these which appear to be out of health, certainly none of the three should be slaughtered in their present condition.

August 4th.—The sick bullock seen on the 3rd inst. died this afternoon. I was not able to be present at the examination of the carcase. The usual signs of catarrhal inflammation of the mucous surfaces were observed.

I do not wish the reader to believe that in these extracts from my notebook he has before him all the evidence upon which I based my opinion of the extensive prevalence of the disease. Many other proofs of this came directly or indirectly to my knowledge, but were not specially recorded, either because they possessed no particular interest, or because my time was otherwise occupied, and leisure for note taking was wanting.

On the 3rd of July I published my second official Memorandum, being fully convinced that the prevalence of the disease must seriously affect the quality of beef sold by native butchers:—

MEMORANDUM *No. 2.*

The disease which made its appearance in April last among horned cattle in Shanghai, has as yet received no decided check. It is, at the present date, prevalent in the sheds where the animals intended for the Shanghai foreign market are stalled. During the past two months I have had ample opportunities of verifying and extending the observations, as to symptoms and postmortem appearances, which I recorded briefly in my first Memorandum. *I am aware that a general impression exists that the disease was introduced from abroad, and probably through* cattle imported from France. In this I do not concur, believing that further research will demonstrate the important fact that Rinderpest has been for many years past as truly endemic in the Great Plain of China as in the Steppes of Russia. Medical testimony varies as to the presence or absence of danger to man, arising from the consumption of the *flesh of animals slaughtered while suffering from this disease. But it is at least certain that, while no one would* knowingly eat such meat, the foreign community generally will require the governing body to use all possible diligence to prevent its introduction into the public markets. The experience of the past three months has convinced me that it is practically impossible to distinguish the beef taken from the carcases of diseased animals from that furnished by those *in perfect health, and this appears to be true even in the case of cattle slaughtered in an advanced stage of this particular* form of Murrain. It is, therefore, my duty to recommend that, in future, all cattle the flesh of which is intended for the use of foreigners, should be carefully inspected and pronounced free from disease before being slaughtered.

As adding to or modifying the statements made in my first Memorandum, I am anxious to place the following *facts on record* :—

The period of incubation of the poison is probably under 10 days. The average duration of the disease, from the date of manifest infection to the time of death, is probably not more than 4 days. Running at the eyes and nose, so generally observed in the epidemic which visited England in 1865, has not been a specially prominent symptom among *the cattle dying in Shanghai. Many animals have exhibited this discharge in a marked degree, but in others it has been* entirely absent.* It is probable that, in every different epidemic, some specially distinguishing feature will be found among the symptoms or postmortem appearances, and climate will of course modify these different manifestations. *A priori*, one would expect that, in a disease which affects all the mucous surfaces of the body, the respiratory passages would suffer most severely in England, and the intestinal canal in Shanghai, and as a consequence, that discharge from the nostrils should be a marked feature in the first case, and diarrhœa or dysentery in the second. The special lesions of the mucous lining of the nostrils of which this discharge is symptomatic, have been found in a more or less marked degree in all the completed postmortem examinations at which I have assisted. I have not observed redness between the toes, with *scaling of the epithelium.*

All the postmortem appearances which are recognised by the best authorities as specially characteristic of Steppe Murrain, have been observed among the cattle at present dying in Shanghai; and I have on a recent occasion been able to demonstrate the greater number of these to the members of the Council.

* * * *

SHANGHAI, *July 1st*, 1872.

[As these morbid changes are fully discussed in the general summary, I have thought it unnecessary to reprint the concluding paragraphs of the Memorandum].

* In all the cases seen after this date, discharge from the eyes and nose was a marked symptom.

GENERAL SUMMARY.—Not the least marked feature of this particular epidemic has been the high death-rate. With the single exception of an old Ayrshire bull, marked No. 20 in the table on page 67, I have not seen a single animal recover; those of Mr. KEELE's stock which were slaughtered were all, as already stated, hopelessly sick. All plans of treatment failed signally, but possibly the use of stimulants delayed the fatal termination in one case. It was held by many as a strong argument against the supposed specific character of the disease, that it extended less widely and shewed in a less marked degree its contagious character than during the European epidemic of 1865; while the fact that it did not affect a herd stalled in sheds in the neighbourhood of those occupied by Mr. KEELE's cattle,* was considered by some as an almost conclusive proof that the diagnosis was incorrect. Of its contagious character I was myself fully satisfied during the rapid extension of the disease in Mr. KEELE's sheds. The history of Mr. WARDEN's losses, and the deaths in the Hupeh Road, will probably be sufficiently convincing for my readers. That this particular feature of Cattle Plague has been less marked in Shanghai than in England cannot be regarded as an argument of much importance when viewed along with the pathological facts which can be adduced to prove the correctness of the diagnosis. For my own part I prefer to regard it rather as bearing favourably upon the opinion which I have elsewhere expressed, that the disease is probably at the present date as truly endemic in China as in Russia. If this can be proved, modifications in intensity etc. follow nearly as a matter of course.†

Quoting from Memorandum No. 2, I note that the period of incubation in this disease is probably under 10 days; this was inferred but not distinctly proved. The average duration from the date of manifest infection to the time of death varies, so far as my observations go, between 3 and 7 days; the average is probably correctly stated at 4 days. The symptoms exhibited vary within certain limits, differing in the early and advanced stages of the disease. With the onset of the malady there is loss of appetite, cessation of rumination, more or less distinctly marked pyrexia, depression of the vital energies, constipation, and a watery discharge from the eyes and nostrils. In the advanced stages constipation is exchanged for dysenteric purging, the discharge from the nostrils becomes purulent or blood-stained, there is often an uneasy restlessness indicative of abdominal pain, the breathing is laboured, and with a further depression of the powers of life the extremities become cold. In milch cows the lacteal secretion is diminished from the first, and soon becomes entirely suppressed. I give one example from among many which I have had an opportunity of observing:—

DATE.	AMOUNT OF MILK YIELDED.		REMARKS.
	Morning.	Evening.	
1st day, being the day preceding that on which the cow was manifestly ill.	6½ bottles.	4¼ bottles.	
2nd day,	6 „	3¼ „	Her food was not finished at night.
3rd „	5 „	2¼ „	Feeding badly; refused altogether at night.
4th „	1¾ „	1 „	Has eaten very little.
5th „	Secretion arrested.		Refuses altogether to feed. Diarrhœa commenced.
6th „	ditto.		Worse in every way.
7th „	ditto.		Died.

Loss of appetite and cessation of rumination are, generally speaking, the first symptoms which attract attention. In the advanced stages of the disease the animal refuses food absolutely. I have made as yet no thermometrical observations, but have inferred a heightened temperature from the accelerated pulse

* I refer to the cattle kept by SEUJEE, and stalled at the Horse Bazaar. I do not know what precautions were taken to guard against the introduction of disease among these animals, but I can speak positively as to the care taken by Mr. KEELE to prevent extension from his sheds. The affected cattle were closely confined to a paddock which was afterwards ploughed; the old sheds were all pulled down and rebuilt, any timber employed a second time being first thoroughly charred; the yard was refilled with earth; disinfectants, especially carbolic acid, were freely used from first to last.

† I need scarcely remind my readers here of the uncertain power of those influences which determine the spread of an epidemic.

(varying between 70 and 90 according to my own observations,) and from the eagerness with which animals in the earlier stages seek to cool their bodies in water when opportunity permits. There is more or less suffering from thirst, which in the advanced stages is often excessive. Depression of vital energy is shown by the listless movements, the drooping ears, the low carriage of the head, and by the lowered temperature of the extremities; the drooping ears give the animal suffering from the disease a very characteristic appearance. The discharge from the nostrils varies greatly both in quantity and quality, in some cases appearing simply as an increase of the natural secretion, in others being purulent, viscid and blood-stained. In the bull belonging to Mr. KEELE which recovered, it was very profuse, hanging from the muzzle in large tenacious masses of a greenish yellow colour. Where this symptom has been absent the mucous lining after death shews in a less degree the characteristic morbid changes, but I have never seen the membrane free from disease. In one case, reported at page 68, I was informed before the nostrils were examined after death, that there had been no such discharge, but I found the cavities nearly filled with fluid of a most offensive character exuded from an extensively diseased surface of mucous membrane. Discharge from the eyes is seldom absent; when the conjunctival inflammation is severe it gives a very marked character to the head; the eyes then appear deeply sunk between the red edges of the swollen lids, from which a profuse purulent discharge escapes, accumulating at the inner angles and running down the sides of the nose. I noticed tolerably profuse salivation in one or two cases. In the hope of inducing the sick animal to resume chewing the cud, the natives occasionally tie a band of hay across the mouth, in champing which an increased flow of frothy saliva gathers, and running from the lips may deceive the observer who is looking for increased discharge from the mouth and nostrils as a sign of disease. Dysenteric purging is a marked and constant symptom in the advanced stages of the disease, and bears a pretty close relation to the severity of the intestinal lesions. In my second Memorandum I noted the reasonableness of anticipating that the bowels would chiefly suffer in Shanghai. The laboured breathing is peculiar, inspiration shallow, and expiration a grunt. In many cases this depends no doubt upon the affection of the windpipe and bronchi, in others it seems to indicate an effort to confine respiratory movements to the chest, while in others again, in advanced stages of the disease, it is simply the noisy shallow respiration preceding death. I have never observed redness between the toes with scaling of the epithelium. I have only once noticed an eruption on the skin; this was in the case of the bull already referred to as being the only example of recovery; his loins, back and belly were covered with a moist crusted eruption, and he lost his hair. Cough is not a prominent symptom; it was observed, however, in some of the cases, and in one was the first indication of disease; it may be described as dry and husky. The vulva in cows appears open, swollen, and much congested; I have seen it superficially ulcerated and covered here and there with patches of viscid puriform secretion. I have examined the bodies of 5 cows destroyed by the disease while in calf; none of them had aborted; 3 were about five months gone, one was seven months gone, and one had reached the 279th day. The urine passed in the advanced stages presented a dark brownish red colour.

The lesions are confined almost exclusively to mucous membranes, and are remarkably extended to all such surfaces in the body. They appear as the result of catarrhal inflammation of varying degrees of intensity, which has something of a specific character, indicated by the leaden or purple discolouration of the congested membrane seen from the very commencement, by the frequent blood extravasations into the sub-mucous tissue, by the croupous or diphtheritic exudation in the windpipe, and by the peculiar *affections of the solitary intestinal glands*. Serous membranes are singularly spared. I have had repeated occasion to mention an appearance "as of the first stage of peritonitis," seen on opening the abdominal cavity, and I have used this guarded expression advisedly, for although at the very onset of the disease the existence of an apparently active hyperæmia of the peritoneum is indicated by the pink discolouration of the serous surface of the bowels, still, beyond a deepening or an alteration of the tint from pink to shades of blue or purple, I have never observed a single indication of advancing inflammatory change; in no one instance, even the most severe and prolonged example of the disease where the intestinal lesions were most extensive, have I detected any diminution of the natural gloss of the membrane, fluid in the cavity of the

peritoneum, or plastic exudation. I have never seen increased vascularity of the pleuræ nor any exudation in connexion with these membranes.

I now proceed from general statements to more particular descriptions of the lesions.

The *Conjunctivæ*, which are nearly always much congested during life, do not by any means constantly retain this appearance after death. I have seen blood extravasation in the sub-mucous tissue. The mucous lining of the *nostrils* suffers variably, but I have never seen this membrane free from morbid change; from the first there is red, purple or leaden discolouration, due apparently to the increased vascularity of catarrhal inflammation; in the more advanced stages there are superficial ulcerations, and the membrane is more or less extensively covered with adherent patches of viscid, puriform exudation. The *mucous membrane* of the mouth is ulcerated the ulcers varying in size from a pin's head to a large melon seed; they are scattered over the smooth surface of the gum, lip and posterior third of the roof of the mouth, and occur also on the rough lining of the cheek; they are of no great depth. On the anterior third of the tongue, the fungiform papillæ appeared in two or three cases raised and of a bright vermillion tint; the base of the tongue was frequently found covered with a viscid greenish yellow deposit extending for a short distance into the œsophagus, possibly exudation detached from the interior of the windpipe and partially swallowed.

The lesions of the *larynx* and *trachea* have been in every case peculiar and characteristic, varying in degree according to the individual attacked or the stage of disease reached. The mucous lining is discoloured with red, pink, purple and leaden tints due to increased vascularity, or to sub-mucous blood extravasation. Such tints are generally most intense in the neighbourhood of the vocal cords. The mucous surface is more or less extensively denuded of epithelium, and more or less covered with a viscid puriform secretion. In severe cases ulceration extends quite through the sub-mucous tissue, and fibrinous exudation unites the disintegrated tissues into friable blood-stained casts of the interior of the tube. I have spoken elsewhere of the exudation as croupous or diphtheritic, and cannot now find more expressive terms for its description. By "croupous" I mean a tolerably easily detached false membrane of no great thickness, seated on a surface denuded of epithelium; by "diphtheritic" I wish to convey the idea of a more firmly adherent, tougher and thicker tissue situated on a more deeply ulcerated base. The sub-mucous blood extravasations are frequently very extensive, appearing in streaks, dots and patches; the peculiar discolourations are greatly due to them. Occasionally the interior of the windpipe is filled with an abundant froth, white or pinkish, and this may extend into the larger bronchi. I have once seen an abscess in the substance of the trachealis muscle.

The *Lungs* and *pleuræ* have been examined carefully in every postmortem at which I have assisted, but I have only once seen an appearance of pneumonic complication (see page 70). Venous congestion is common enough, but appears to be a mechanical result from the gradual failure of the heart's action. I have never seen the slighest indication of pleuritic inflammation. On two occasions I noted blood extravasations in the sub-serous tissue of the lining of the *pericardium*. I have already mentioned the presence of froth in the *larger bronchi*. I have seen increased vascularity of the mucous membrane in these tubes, but never any exudation.

On opening the *abdominal cavity* the attention of the observer is at once attracted by the pink patchy discolouration of the omentum and surface of the paunch, and by the varying shades of pink, blue and purple which colour the serous surface of the intestines. I have frequently observed spots of ecchymosis in the sub-serous tissue, but, as elsewhere stated, have never seen roughening of the peritoneum or exudation of any kind into its cavity. The stomachs have been in every case distended with the food last taken, the processes of digestion appearing to have been arrested at the onset of the disease. In the paunch I have noticed a peculiar softened condition of the epithelium which permitted of its easy detachment. The lining of the fourth stomach in every case in which it was examined was found to be much congested and the seat of more or less extensive ulceration. The mucous lining of the *intestinal canal* was, in by far the greater number of cases, diseased throughout; the most serious lesions were usually seen in portions of the small gut; it generally appears in patches swollen, softened or thinned; it is usually of a dirty red colour, varied here and there by shades of pink or purple, obscured by a more or less viscid, puriform and blood-stained secretion which adheres to the surface.

In the large gut the longitudinal folds shew as red streaks on the surface of an otherwise naturally coloured lining; in the small gut the discolouration is more equally diffused. Blood extravasations are common, and occur both on the surface of the membrane and in the sub-mucous tissue. Ulceration varies from a mere diffused stripping of epithelium to a distinct circumscribed destruction of tissue. I observed in one or two cases the surface studded with small circular ulcers of some depth which appeared to mark the situation of the solitary glands. The position of these glands was indicated here and there in many cases by a raised blue or purple spot about the size of a No. 2 shot, in the centre of which the small orifices of the glands were frequently to be seen. A peculiar appearance, somewhat resembling the special lesion of Enteric Fever, was noted in a few cases; in these the cavities of the glands were filled with a cheesy looking substance which protruded from their mouths appearing as yellow spots on the mucous surface. I have frequently noticed bluish black points, of about the size of a large pin's head and of tolerably firm consistency, partially adherent to the surface of the lining of the bowel, and have regarded these, correctly or incorrectly, as the extruded contents of the glands. The special appearances in connexion with the intestinal glands were not always observed. So far as my observations go they are confined to the solitary glands.

The *Liver*, *spleen* and *kidneys* appeared to be healthy in every case. The contents of the gall bladder are occasionally altered in colour—from the natural clear green to a dirty yellow. The nervous centres were never examined. The blood in every case of advanced disease was fluid, and dark in colour.

Some observers have described peculiar appearances revealed by the microscope in the muscular tissue of animals destroyed by Cattle Plague. Without denying the importance of such investigations, circumstances have directed my attention rather to the practical question whether or not it is possible to detect by ordinary inspection the diseased condition of the beef taken from the carcase of an animal suffering from this complaint. A disease which runs such a rapid course cannot be supposed to cause such an absorption of fat as would give a marked character to the meat, and experience proves that it does not do so. Decomposition sets in early, but this is a fact of no practical significance. When the animal is not slaughtered until disease is so far advanced as seriously to affect the heart's action, and to occasion extensive morbid change in the mass of the blood, the beef may be expected to present an altered (darkened) colour, due to the stasis or even extravasation of imperfectly aerated and partially decomposed blood, but the existence of even this probable morbid alteration has not been as yet satisfactorily proved.* As the result of my experience during the past few months, I am able to express a decided opinion that it is practically impossible to distinguish such meat from the beef taken from an animal slaughtered in perfect health.

* The native butchers, as Dr. THIN tells us, slaughter the animal as soon as the disease is unmistakeable.

M.—Dr. Alexander JAMIESON's Report on the Health of Shanghai for the half year ended 31st March, 1872.

IT is by no means easy for any one practitioner in a place so large as Shanghai to produce an exhaustive report upon the health of foreigners and natives during any assigned period. The multitude of facts to be observed and the number of observers, although rendering the possible material abundant, enhance the difficulty of collecting it and bringing it into a manageable shape. Little more, however, than the trivial incidents of ordinary routine practice swells the heap of unarranged and therefore useless observations, and under any circumstances these, wherever recorded, are of absolutely no interest to the profession. Whenever the prevalence of an epidemic or of any special type of disease attracts attention, the medical men in Shanghai are ready to mass their observations and bring them into a common stock. There is thus little or nothing lost which could be of interest to the profession in China, and indirectly of importance to the public. But failing the prevalence of an epidemic or the occurrence of anything noteworthy in the medical history of the place, the Shanghai Report will often necessarily take the form of a general and scanty summary of the causes of death, supplemented, I trust, by special memoirs on diseases which from their form, their frequency, rarity or fatality, attract the attention of the scientific observer. Immediately preceding this paper will be found the first of these special reports kindly furnished by Dr. Edward HENDERSON, the Health Officer of the Municipality, whose official position affords him the best opportunities for studying the malignant epizootic which for several months has raged in Shanghai and the neighbourhood. To that important subject he has accordingly devoted his Memorandum, and I have no doubt that the obvious usefulness of such special records when collected and made readily accessible to the entire body of practitioners in China will stimulate the desire we each have to explore some particular field, what that field may be depending upon each person's opinion of its fertility and present lack of cultivation.

For the following note upon the meteorological statistics of the winter six months of the years 1867 to 1871–72 I am indebted to Mr. C. DEIGHTON-BRAYSHER, Assistant Harbour Master at this port:—

During the last quarter of 1871 the total duration of rain was greater than in the corresponding period of any year since 1868. The aggregate for each year since 1867 was as follows:—

Oct. to Dec. 1867,... 74 hours	Oct. to Dec. 1869,... 86 hours	Oct. to Dec. 1871,... 151 hours
" " 1868,... 199 "	" " 1870,... 69 "	

On the other hand the total duration of rain during the first quarter of 1872 was less than in the corresponding period of any year since 1867:—

Jan. to Mar. 1867,... 169 hours	Jan. to Mar. 1869,... 298 hours	Jan. to Mar. 1871,... 64 hours
" " 1868,... 297 "	" " 1870,... 134 "	" " 1872,... 58 "

In addition to the 58 hours of rain, we registered during the first quarter of this year 57 hours of snow, the greatest fall since 1862. No observation as to the quantity of rain-fall in inches was made.

There was little difference between the ranges of the barometer during the last quarter of the years 1867–71. The highest register was in December 1871 when, though a very unusual occurrence, the mercury reached 30.73 in., a strong N.W. wind blowing for 7 consecutive days. For the same period of these years the minimum height was 29.87 in., in October 1870.

The maximum reached during the first quarter of the last six years was 30.66 in., in March 1871 and January 1872. The minimum for the same period of the same years was 29.60 in., in March 1867. The minimum for the first quarter of 1872 was 29.91 in.

For the past five years the maximum temperature registered during the last quarter was 82° F., in October 1867 and October 1870. In December 1868 the thermometer registered a maximum of 71° F. The minima of the quarter during five years were:—

1867,..... 26° F.	1869,..... 21° F.	1871,..... 19° F.
1868,..... 19° „	1870,..... 22° „	

The maximum reached in the first three months of the past six years was 80° F., in March 1872. The minima, all registered in January, which in each case was by far the coldest month, were as follow:—

1867, ... 26° F.	1869,..... 21° F.	1871,..... 21° F.
1868,..... 27° „	1870,..... 22° „	1872,..... 23° „

The prevailing winds in October are N.E. to N.W.; in November, December and January N.W.; in February N.E., and in March very variable.

In 1867 there were during the first quarter 11 gales; in 1868, 9; in 1869, 8; in 1870, 5; in 1871, 4; and in 1872, 7.

The observations above recorded were taken at Woosung.

It is not at present possible to collect under any general law the sequences observed between atmospheric conditions and the development of certain diseases. But it may reasonably be expected that as facts accumulate they will become capable of arrangement under empirical laws which latter will eventually give place to laws of complete generality. The importance of such guides, should they ever be obtained, will be acknowledged by everybody, and therefore the establishment of stations for accurate and constant meteorological observations at all the open ports in China is much to be desired. It is seldom possible to find amateurs supplied with the necessary instruments or endowed with sufficient skill, diligence or leisure to render records kept by them either very complete or very reliable.

The local conditions in Shanghai are every year becoming more favourable to health. The settlement is itself steadily rising, a fact of which any one may satisfy himself by observing the sunken foundations of the older native houses or the depth to which a cutting has now to be made before water is reached. Drainage is progressing with great rapidity, the only objection which can be taken to the Council's action in this matter being the carelessness with which drainage operations are carried on during hot weather. In many crowded native quarters better houses are gradually replacing the shanties which were run up during the rebellion without regard to comfort, health or decency, and which have since been precariously held together by shoring and patching. The roads out of the settlement are being improved and extended, so that within a few months there will be a choice of at least half a dozen country drives each having its peculiar attraction. It is perhaps rash to make any comprehensive statement without figures as a guide, but I am convinced that *pari passu* with the improvements just noted, the health of Shanghai has improved. There may be, and is, in fact, little alteration in the death-rate as roughly estimated from year to year, but there is a marked diminution in the amount of general "seediness" arising from more or less slight hepatic derangement, or absorption of malarial poison. I have before noted the almost complete disappearance of the so-called "Shanghai Fever," a malignant or at any rate extremely fatal fever of the remittent type, and it is my experience, supported, I do not doubt, by that of other practitioners, that intermittents and neuralgia, as well as derangements of periodic functions are becoming slowly less prevalent among the residents who are careful to place themselves under the best hygienic conditions available. The only published description of "Shanghai Fever" which I can recall is one by the late Dr. HENDERSON in his report on the working of the Chinese Hospital for 1861. The following extract from that report will give those who have not seen this form of disease in Shanghai a notion of its severity:—

It is purely a severe form of remittent fever with daily exacerbations and remissions, but if it is neglected all the symptoms of continued fever supervene, and it differs but little from a severe case of typhus fever. It usually commences suddenly; the patient is seized with severe rigors which last from 30 minutes to one or two hours, then great heat, intense headache, flushing and fever come on, followed by profuse perspiration. Occasionally the disease advances insidiously and gradually and its nature is only apparent after a certain period. In severe cases during the cold stage there is retching and vomiting, the pulse is feeble and intermittent, the extremities are cold and livid, an intense feeling of cold pervades the whole body. Reaction ensues after a time, the skin becomes dry and pungently hot, the face is flushed and turgid, the pulse is quick, full and bounding, the mind often wanders with occasional delirium. After a few

hours these symptoms subside, a general and profuse perspiration breaks out, the pulse falls in force and frequency, and the patient lies prostrate and completely exhausted. If the disease is neglected or left to itself, the tongue becomes coated with a dry brown fur, the liver becomes disordered, there are bilious vomiting and diarrhœa with tenderness and pain in the right hypochondrium; rheumatic symptoms shew themselves, purpurous eruptions break out on the skin; blood is discharged from the mucous membranes; great prostration ensues, and the patient dies comatose or delirious.

This was a tolerably faithful description of a disease prevalent in Shanghai at a time when Deputy Inspector-General CURRIE, reporting to the head of the English Army Medical Service, could say without fear of contradiction—"It will be conceded by anyone who has visited the settlement, that it abounds in all the "elements of unhealthiness in an eminent degree."

Vaccination was constantly performed during the winter six months, at the Municipal depôt in the Ningpo Road, and at the native dispensary in the city. The diligence with which this important work is now pressed must have in process of time, if it has not already, a marked influence upon the propagation and spread of small-pox within the settlements. It will be observed that there was no fatal case of small-pox among foreigners during the period, and, so far as I know, only two cases, both benignant. Inoculation is however still practised. It is satisfactory to be able to report that the Municipal Council has instructed its Health Officer to take immediate steps for the establishment of a lock hospital. Upon these facts we may reasonably congratulate ourselves, for even now, and in England, there is sufficient abject superstition to give life to a large party which upon religious grounds opposes the control of prostitution, and to a small party which upon the same grounds opposes the control of small-pox. It may not be generally known that the experiment of brothel-suppression has been tried, but with the most disastrous results. In 1845 the Berlin brothels were closed, and in 1848 the amount of disease and illegitimacy was found to be far greater than before. Yet this is the alternative to which the self-styled religious classes would force legislators. I have nothing to add to my remarks in last Report upon the advisability and feasibility of the sanitary inspection of public women in Shanghai.

No epidemic prevailed last winter. A few cases of *Fung-sha* presented themselves in October, and in November whooping cough seemed likely to break out, but was limited to a very few cases, two of which (doubtful) occurred among the half-caste children at the Eurasian school.

While free from epidemics, however, an alarming epizootic manifested itself in the middle of March among the horned cattle in Shanghai and the neighbourhood. It is unnecessary for me to do more than mention the fact, as Dr. HENDERSON'S exhaustive paper which immediately precedes this Report deals with all the questions arising out of the matter. Unluckily the Consular and French Municipal authorities, instead of taking decided steps to prevent the slaughter of diseased animals and the sale of diseased meat, employed themselves less profitably in discussing whether the malady was really what is technically known as Rinderpest, and in assuring the public "qu'il n'y a aucunement lieu de s'alarmer." For practical purposes it is perfectly immaterial what the disease is called. By whatever name it may be known, it is certainly a highly contagious, malignant fever which within a few days effects so profound an alteration in the blood and other vital fluids that the meat bathed by them putrifies with extraordinary rapidity. As nobody has actually died in consequence of eating meat so diseased, it might be rash to assert that the dyscrasia of the blood which kills the animal renders the flesh poisonous to human beings; but it is absurd to recommend people not to be alarmed when the meat which supplies their tables may, for anything they know, have been cut from animals dead of a disease which from the postmortem appearances might be described as a combination of diphtheria, typhoid fever and dysentery. For my own part I have no hesitation in saying that I am not alarmed, but this state of confidence is due to total abstinence from beef in any form.

The following is the foreign death return for the six months:—

OCTOBER.	NOVEMBER.	DECEMBER.	JANUARY.	FEBRUARY.	MARCH.	TOTAL.
13	8	7	7	2	2	39

The figures for January, February and March are taken from the burial returns. Of the 39 deaths above recorded, 2 were of children under 2 years; 1 followed on a wound, and 3 were due to drowning. Of the remainder, 2 arrived in a dying state, and 18 were non-residents. Thus the mortality among adult residents is reduced to 13, or, including the infantile mortality and calculating the foreign community at 2,000, which I have no doubt is considerably below the mark,* the annual death-rate estimated for this period among residents of all ages was 15 per thousand.

Among the causes of death, "heart disease" and aneurism took important places. In October there were 2 deaths from aneurism, in November 1, in January 1, and in February 1. Of these 5 deaths, 4 occurred among residents, and 1 took place the day after the sufferer's arrival in Shanghai. In August and September there had been one case each month, so that within a very short period there were 7 deaths from aneurism, besides at least 2 which occurred in persons occasionally at the port. There were moreover 6 cases of sudden death between October and December, 5 of which occurred on the river, and though not certified, they were reported at the time to be due to aneurism. Besides all this, a certain number of individuals known to be suffering from aneurism left Shanghai under advice about that time or since. It is beyond doubt that many more persons have aneurisms than are conscious of their disease. VALSALVA was the first to assert this,† and since his day every dissecting room proves the fact. Chance therefore had probably a great deal to do with crowding these deaths from aneurism into a brief period. But the causes to which dilatation of the arteries is due, especially where there exists any constitutional tendency to degeneration, exist in full force in Shanghai. Dr. REID (pp. 45–47) has entered largely into this subject, but I would add to what he says, that the sudden and violent change from the compulsory inactivity of summer to the gymnastic exercises and athletic sports to which a large number of young men enthusiastically devote themselves at the first appearance of autumn freshness, is of itself sufficient to overstrain the arterial system. If it be true, as it is now laid down by English authorities,‡ that even the repeated spurts in a boat race, by overdrawing on the reserve force of the involuntary muscles to supply the demands of the voluntary, render the heart's action irregular and lay the foundation for mitral and aortic insufficiency, it is still more strikingly evident that sudden transitions from a life of comparative indolence to one of stern and sustained discipline are in the highest degree hurtful. To put the matter at once in a popular and intelligible light, nobody with any pretensions to an acquaintance with horseflesh would think of taking an animal from grass and immediately subjecting him to a daily three mile gallop over turf. Yet this illustration only feebly sets forth what is every year done to themselves by many men in Shanghai. It appears that no case of aneurism has, at any rate of late years, presented itself at the Chinese Hospital in the Shantung Road. One case in which the superficial femoral on one side, and the common femoral on the other were the seats of aneurismal tumours was treated two years ago in the Hongkew Hospital for natives; but observation in this province fully bears out Dr. JOHNSTON's opinion that the simple habits of living adopted by the natives, and their phlegmatic and unexcitable natures probably give them some immunity from the disease.§ On the other hand Dr. REID, while admitting that at Hankow aneurism of the extremities is rare amongst natives, states that arterial degeneration is common enough.

There were 5 deaths from pulmonary phthisis, the disease in each case dating from a period previous to the patient's arrival in Shanghai. I have not seen phthisis originate here, and it is well known that such an occurrence is extremely rare. But I have not found the course of the disease in imported cases arrested or even sensibly modified by residence in Shanghai. Dysentery may almost be considered endemic, but it is to be expected that as by the extension of drainage we are gradually expelling the worst forms of paroxysmal fevers, we shall in process of time by obtaining an untainted water supply reduce the annual number of dysenteric cases to a minimum. So long as Shanghai water continues to be what it is we cannot fail to have

* The Census of 1870 gave 1,982 foreign residents of all ages.

† H. F. ALBERTINI, *Animadversiones super quibusdam difficilis respirationis vitiis a læsâ cordis, et præcordiorum structurâ pendentibus.*

‡ *Lancet;* vol. i., 1872, p. 444.

§ 25th Report of the Chinese Hospital, p. 15.

dysentery and enteric fever as constant guests. Water for drinking and cooking purposes being obtained exclusively from the river, the prevalence of an epidemic among the shipping population, and especially of an epidemic of diarrhœa, dysentery or typhoid fever, implies the spread of these diseases on shore. Something might be done by extending and enforcing article 9 of the *Harbour Regulations for the Port of Shanghai**. It might with vast advantage be made compulsory on masters of vessels to send their men ashore as soon as symptoms of serious bowel derangement appear. A periodical official visit would render evasions of the rule tolerably infrequent. I need not here enter into a discussion of the means of accommodating such patients. It is a fact which may be taken for granted that any number of patients supplied by the vessels in port could be well and economically accommodated on shore. Still, however, the junks lying off the city would continue to contaminate the stream did an epidemic break out among them. While therefore every means should be adopted to reduce the evil to a minimum, the only way to abolish it altogether is to obtain a purer water supply than the river can ever afford. The deaths from dysentery were 9 during the half year. Of these, 6 occurred in non-residents; one patient was an infant, and in 2 cases among residents the cause of death was not certified. Enteric fever furnished 2 fatal cases among residents—one in October and one in November. There were likewise among residents in the same months 2 fatal cases of suppurative hepatitis. On the whole, the period under review was one of fair average healthiness.

By the kindness of Mr. PENFOLD, Superintendent of Police for the English and American Settlements, I am able to give a brief account of the mortality among natives resident within the Municipal limits. One source of error must be borne in mind, namely that when natives of neighbouring cities or of the Chêkiang province believe themselves to be in a hopeless state their friends invariably endeavour to remove them to their birth-places before death occurs. Hence a large number who sicken in Shanghai and whose deaths ought to swell the native mortality of the place, die in other cities or on their way thither. In the following table it will be observed that the number of female children is less by one third than that of male children. Such a discrepancy could not occur without interference, and Mr. PENFOLD, whose opportunities of observing the manners and customs of the natives under Municipal control are unequalled, attributes it to two causes—infanticide, which is, without the possibility of check, perpetrated in every native alley in the settlements, and parental neglect of girls at all times, but especially during illness.

CHINESE POPULATION OF THE ENGLISH AND AMERICAN SETTLEMENTS [March 1871].

——	MALES.		FEMALES.		TOTAL.
	OVER 15.	UNDER 15.	OVER 15.	UNDER 15.	
English Settlement,	29,408	7,907	12,288	5,716	55,319
Hongkew,	6,738	1,987	2,876	970	12,571
	36,146	9,894	15,164	6,686	67,890
	46,040		21,850		

The deaths were 168, distributed as follows:—

——	ENGLISH SETTLEMENT.	HONGKEW.	MALES.	FEMALES.	TOTAL.	LIMITS OF AGE.
October,	23	21	24	20	44	2† & 76
November,	23	14	21	16	37	4‡ & 68
December,	16	14	21	9	30	1§ & 74
January,	8	9	11	6	17	1§ & 78
February,	8	12	13	7	20	3 & 69
March,	7	12	10	9	19	10 & 82
	85	82	100	67	167	
	167		167			

* That article runs as follows:—"A vessel arriving with a contagious disease on board shall not come nearer the lower "limit of the harbour than one mile, shall fly at the fore a yellow flag, and shall not allow any one to disembark or come on "board without permission from the Harbour Master's Office."

† Possibly not more than 8 months old. ‡ Possibly 3 years. § A few days perhaps.

The maximum age, 76, at which death occurred in October was in a woman. A man died at 68 in November; a man and woman at 74 in December; while the maxima for the succeeding months were reached by women. Subject to the limitation noted above, which, on account of child-bed mortality, applies less to women than to men, the mortality among males for the 6 months, as shewn by these tables, was at the rate of 4.34 per thousand per annum, and that among females at the rate of 6.13 per thousand. The total native mortality was at the rate of 4.92 per thousand.

Premising that the ignorance of Chinese practitioners is only equalled by their conceit, and that their nosology is only slightly more absurd than their therapeutics, I give the following table of causes of death, *compiled from Chinese sources. As a classification it is utterly worthless, but from it one or two important* facts may be extracted.

The native mortality in the English and American Settlements for the period under review is thus set forth :—

Disease.	October.		November.		December.		January.		February.		March.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
1. 風寒 *Fêng-'han*, which seems to include bronchitis and pneumonia,	6	1	...	...	...	...	...	...	...	...	...	...	7
2. 生產 *Shêng-ch'an*, Childbirth,	...	4	...	6	...	...	...	...	...	...	...	...	10
3. 老病 *Lao-ping*, a convenient term covering every disease at the end of which the patient dies exhausted. *Tuberculosis*, and the syphilitic and cancerous cachexiæ find places under it,	7	6	8	3	11	4	6	2	8	5	4	5	69
4. 急病 *Chi-ping*, or "violent disease," another beautifully convenient and comprehensive term,	5	7	4	1	2	2	2	2	4	1	3	2	35
5. 傷寒 *Shang-'han*, which seems to be characterised by intense heat of skin, including probably typhus, pneumonia and acute tuberculosis,	4	...	3	4	2	1	2	1	...	...	...	...	17
6. 吐血 *T'u-hsieh*, Hæmoptysis,	1	...	1	1	2	...	...	...	...	...	...	...	5
7. 咳嗽 *K'o-sou*, or cough ; chronic bronchitis no doubt, often supplemented by asthma,	...	1	...	...	...	...	...	...	...	...	...	...	1
8. 發沙 *Fa-sha*, which, I am told, includes every state of insensibility,	1	...	1	1	2	1	...	1	...	...	...	1	8
9. 鼓脹 *Ku-chang* or "drum dropsy," Ascites,	...	1	...	1	...	...	...	...	...	...	...	...	2
10. 腹疾 *Fu-chi*, choleraic diarrhœa,	...	...	1	1	...	...	...	...	...	...	...	...	2
11. 巡死 *Hsün-szŭ*, suicide,	...	...	1	...	1	...	1	...	1	1	2	...	7
12. 痛風 *Tung-fêng*, or acute rheumatism,	...	...	...	...	1	...	...	...	...	...	...	1	2
13. 天花 *T'ien-'hua*, Small-pox,	...	...	...	...	...	...	...	...	...	...	1	...	1
14. Accidental Burning,	...	...	...	...	...	1	...	...	...	...	...	...	1
Total,	24	20	19	18	21	9	11	6	13	7	10	9	167

Out of the 7 suicides, one was accomplished by hanging, 5 by Opium, and the mode adopted in the remaining case is not recorded. Obviously the classification of the preceding table is quite worthless, for it would be an even chance under which one of the headings marked respectively 4, 5 and 8 a case of, for example, solar apoplexy would fall. It is curious that there should have been 10 deaths in labour during the two months October and November, and none afterwards. Ten fatal cases of labour in two months among an adult female population of 15,000, not one-fifth part of whom bear children, while the fertile minority suckle their infants for periods rarely less than 2 years, represent a very extraordinary percentage of mortality. The Chinese themselves variously estimate the death rate at from 5 to 8 per cent on all labours. From the English, Irish and Continental statistics collected by Murphy, and embracing more than

a quarter of a million of cases (*Midwifery*, 2nd Ed. pp. 698–705) it appears that childbed mortality in European lying-in hospitals, wherein moribund women are frequently received, is 1.21 per cent. In private practice of course the percentage is much lower. We shall not be surprised by the excessive mortality among Chinese women when we consider that, except in the rare instances where spontaneous evolution takes place, presentations of the superior extremity (say 0.4 per cent of all cases) must be fatal to both mother and child. Placenta prævia, fœtal hydrocephalus, pelvic tumour, distorted pelvis, insuperable rigidity of the cervix, and many other serious complications which demand interference, must terminate in the death of the mother, while the probabilities are all against a successful delivery when the labour is powerless, the uterus displaced or the placenta retained. To these we must add such formidable sequelæ as syncope, secondary hæmorrhage, puerperal peritonitis, uterine phlebitis and tetanus, while abortion in the early months with profuse hæmorrhage doubtless results in death in many instances. Altogether, in the case of a Chinese female, the physiological processes of utero-gestation and parturition are so closely surrounded by the dangers arising from no-management and mismanagement that pregnancy becomes a pathological condition but one half less formidable than typhus fever.* Instead, however, of speculating farther upon what must be, or in all probability will be, fatal cases, I will adduce a curious fact which sets in a very strong light the amount of puerperal mortality among Chinese women. For this I am indebted to Dr. D. B. McCartee who for many years resided in Ningpo, and whose intimate acquaintance with the character and language of the Chinese renders his evidence upon any Chinese question in the highest degree valuable. It is well known that there are ten Buddhist hells one of which is the "bloody lake." Beneath the surface of this lake all women who die within a month after parturition are supposed to be incontinently plunged. In order to obtain the sufferers' release large sums have to be paid to the priests who, by repeated recitations of the 血盆經, exert the same power over the purgatorial regions which, by means of masses, is exerted by the Romish clergy. Short of actual release, or during the tedious process of accomplishing it, pauses in the torment can be obtained by purchasing the privilege of affixing a few hairs cut from the dead woman's head to the inside of a certain bell set apart for this use. Every time the bell is struck during the progress of the temple ceremonies the women whose hair is attached to it rise for a moment above the lake and are allowed to catch a breath of air. As soon as the last vibration ceases they are again plunged below the surface. In 1851 Dr. McCartee happened to visit the 清道觀, a temple in the suburbs of Tzu-chi, and found that a bell 5 feet high which was used for this purpose was crammed full of hair, while alongside of it there stood a firmly packed bale of the same substance which had recently been removed from the inside. This bale was 3½ feet high and nearly 8 feet in circumference.

The following table is condensed from the records of the Shanghai General Hospital. I have omitted all patients but Europeans, a fact which accounts for one or two slight differences between this and the tables given in the recently published report of the institution. I have also omitted one case of malingering. As in last year's report, I italicise those fatal cases in which death resulted from disease presumably referable to climatic or local causes or to the action of the sun aided by personal habits.

Months.	Admissions.	Deaths.	Cause of Death.	Death from Special Classes of Disease.
October,	21	4	*Dysentery* (3), *Typhoid* (1),	4 or 19 % on Admissions.
November,	27	1	*Suppurative Hepatitis*,	1 or 3.7 % ,,
December,	24	1	*Dysentery*,	1 or 4.2 % ,,
January,	15	3	*Dysentery* (2), Bright's Disease (1),	2 or 13.3 % ,,
February,	12	1	*Dysentery*,	1 or 8.3 % ,,
March,	20	0		0
	119	10		

* "It may therefore be assumed that one out of every 5 persons attacked by typhus will die. * * * "In the year 1851, when only 68 cases were admitted into the London Fever Hospital, the mortality was only 8.82 per cent." Murchison :—*Continued Fevers of Great Britain*, p. 218.

In the above table the deaths placed opposite each month are not necessarily deaths in that month, but deaths out of the admissions in that month. In October there were actually 8 deaths, but of these only 3 occurred among the October admissions. In November there was 1 death, the patient having also been admitted in that month. In December there were 2 deaths, 1 from chronic dysentery admitted in October (duration of 55 days) and 1 from acute dysentery admitted in December (duration of 3 days). In January there were 2 deaths, the patient in each case belonging to that month. The patient who eventually died of Bright's Disease lingered until the 14th April. No death appears for February, but a case of dysentery admitted in that month terminated fatally in March.

It is a significant fact that out of 10 deaths 7 were due to dysentery, 1 to typhoid fever and 1 to suppurative hepatitis. *No stronger comment could be made upon the Shanghai water supply.* The following Table gives a nosological classification of the cases admitted :—

	October.	November.	December.	January.	February.	March.
A.—Zymotic Diseases.						
I. *Miasmatic Diseases* :—	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Variola,	—	—	1	—	1	—
Exanthematous Fever,	—	1	—	—	—	—
Typhoid „	* 2	—	—	—	1	1
Typhus „	1	—	—	—	—	—
Intermittent „	5	—	1	—	—	—
Remittent „	—	1	—	—	—	1
"Gastric" „	—	2	—	—	—	—
Continued „	—	—	—	—	1	—
Dysentery,	† 6	2	* 1	‡ 2	* 2	—
Diarrhœa,	—	2	—	—	—	1
II. *Enthetic Diseases* :—						
Primary Syphilis,	—	1	—	1	—	—
Secondary „	—	1	2	1	—	—
Chancre,	—	—	1	—	1	—
Phymosis,	—	1	—	—	1	—
Bubo,	—	2	3	—	—	3
Periostitis,	1	—	—	—	—	—
Iritis,	—	—	—	—	—	1
Rheumatism,	—	—	—	—	—	1
III. *Dietic Diseases* :—						
Intemperance,	1	—	—	—	1	1
B.—Constitutional Diseases.						
I. *Diathetic Diseases* :—						
Rheumatism,	—	3	2	—	—	—
II. *Tubercular Diseases* :—						
Phthisis,	1	—	1	1	—	—
Adenitis,	—	1	—	—	—	—
Orchitis,	—	—	—	—	1	—
C.—Local Diseases.						
I. *Diseases of the Nervous System* :—						
Hemiplegia,	—	1	—	—	—	—
Delirium Tremens,	2	1	—	—	—	1
Mania,	—	—	—	—	1	—
Epilepsy,	—	—	—	—	—	1
Neuralgia,	—	1	—	—	—	—
II. *Diseases of the Circulatory System* :—						
Aneurism,	—	—	—	—	1	1
III. *Diseases of the Respiratory System* :—						
Catarrh,	—	1	—	—	—	—
Bronchitis,	—	1	1	—	—	—
Pleuritis,	—	—	2	—	1	2
Pneumonia,	—	—	1	—	—	—

* 1 fatal case. † 3 fatal cases. ‡ Both fatal.

C.—Local Diseases.—*Continued.*	October.	November.	December.	January.	February.	March.
IV. *Diseases of the Digestive System:*—	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Typhlitis,	—	1	—	—	—	—
Sigmoiditis,	—	—	—	—	—	1
Colic,	1	—	—	—	—	—
Piles,	1	—	—	—	—	1
Hepatitis,	—	—	—	1	—	—
" Suppurative,	—	* 1	1	—	—	—
"Disease of Liver,"	—	1	—	—	—	—
V. *Diseases of the Urinary System:*—						
Bright's Disease,	—	—	—	† 1	—	—
Cystitis,	—	—	1	—	—	—
Enlarged Prostate,	—	—	1	—	—	—
VII. *Diseases of the Locomotive System:*						
Deformity,	—	—	1	—	—	—
Deep Abscess of Thigh,	—	—	—	1	—	—
B.—Lesions from Violence.						
I. *Accident:*—						
Contusion,	—	1	1	—	—	1
Fracture of Clavicle,	—	—	—	1	—	—
" Humerus,	—	—	1	—	—	—
" Radius and Ulna,	—	—	—	1	—	1
" Rib,	—	—	—	1	—	1
" Femur,	—	—	1	—	—	1
" Tibia and Fibula,	—	1	—	—	—	—
" Fibula,	—	—	1	1	—	—
Gunshot Wound,	—	—	—	1	—	—
Amputation of Toe,	—	—	—	1	—	—
Laceration,	—	—	—	1	—	—

The health of the Customs Out-door Staff was excellent. From the 20th September 1871 to the 31st January 1872 no service was lost on medical certificate. Subsequently, one man was laid up with a severe contusion of the foot, one with intestinal obstruction dependent on the passage of biliary calculi, one with neuralgia, one with congestion of the liver, and one in consequence of an operation on his throat. No death occurred. The health of the River Police was also good.

The daily sick list of the Police Force for the English and American settlements was heavy during the half year, but the causes of absence from duty were not generally very serious. There was but one case of intermittent fever. Two cases of dysentery and 4 of diarrhœa occurred. In one shape or another venereal disease attacked 7 men. One man was unfortunate enough to commence the half year with a specific sore throat, and to terminate it with periostitis, having filled up the interval with a bubo. Altogether there were 11 admissions with venereal disease—gonorrhœa, 1; cystitis, 2; orchitis, 2; bubo, 3; specific sore throat, 2; periostitis, 1. There were 3 cases of epilepsy, a fact sufficiently curious to attract attention when one considers that the average strength of the force was only 33 men. In the French force during the same period there was likewise one epileptic. The majority of the other invalids suffered from more or less slight gastric or hepatic disturbance, from venereal disease in its various forms, diarrhœa and paroxysmal fever. I find no case of either dysentery or enteric fever recorded in the list kindly furnished me by Dr. Galle, the medical officer of the French Municipality.

Foreign children were as a rule healthy during the winter six months. There were but 2 deaths—one from chronic hydrocephalus, the other from collapse following severe dysentery with great febrile disturbance. A few cases of dysentery, some of considerable severity, occurred among children during the early months of this year, curiously enough preceding by a very short interval the discovery of murrain among horned cattle. It is needless to say that milk forms the staple diet of foreign infants in Shanghai, and

* Fatal. † Fatal in April.

although I do not wish to draw too pointed an inference, the coincidence is at least noteworthy. Doubtless, as soon as the existence of murrain was ascertained, all the medical men in the place insisted upon the necessity of boiling milk before allowing children to drink it. The only corporation of young children in Shanghai that I know of is the Eurasian school. For the winter half year the average number of boarders was 15. The children in this institution are of ages pretty evenly distributed between 4 and 12. They live under the most favourable conditions, the house is well elevated, the sleeping rooms and school rooms are lofty and thoroughly ventilated, and a large compound and wide verandahs enable the inmates to obtain open air exercise in all weathers; they are carefully tended, suitably clothed and well fed. In case of illness the necessary measures are scrupulously carried out, and the large number of rooms in the house renders isolation possible whenever it may be necessary. During the six months, colds and coughs were of course frequent, and one or two of the children suffered from simple conjunctivitis. One case of strumous ophthalmia coupled with eczema of the ears, yielded rapidly to cod liver oil and syrup of the lactate of iron, coupled with appropriate local treatment. Two doubtful cases of whooping cough appeared in November. Most of the symptoms were present, but I myself never happened to hear the characteristic whoop, and from the fact that the affection did not spread it seems probable that a mistake was made. No other case of illness occurred.

The reputation of Shanghai for healthfulness has undergone many changes. At one time Shanghai was regarded as the sanitarium of China, but after a few years, residence here was declared to be more dangerous than at any other port in the East. Although this evil report was never very just, it still in a modified form clings to the settlement. Yet it is only necessary to glance at the return of causes of death among foreign residents in order to learn that while in the majority of cases the climate pure and simple cannot be charged with the event, a large number of diseases prevalent in England are here quite unrepresented.

The causes of death, among residents alone, during the winter six months were as follow :—

Aneurism,	3	Dysentery,	3
Suppurative Hepatitis,	2	Diarrhœa,	1
Atrophy of Brain,	1	Chronic Hydrocephalus,	1
Remittent Fever,	1	"Disease of the Liver,"	1
Enteric Fever,	1	Consumption,	1

Diphtheria, croup, scarlet fever, true measles, laryngitis and many other diseases common enough in England, and very fatal, especially among children, are unrepresented in Shanghai. Without therefore attempting to assert that Shanghai is the best place of residence in the world, I may at least say that, presuming ordinary care during the heat of summer, nobody diminishes his chance of life by leaving England and removing to this port.

N.—Addendum to Peking Report.

[See page 9].

During the months from October 1871 to March 1872, there were 2 deaths among foreigners, both the result of serious and chronic cerebral disturbance. One case proved fatal by apoplexy; the other by softening of the brain, but neither was in any way connected with this climate. The period under review was comparatively healthy; there was no epidemic of any sort. Towards the end of the winter and beginning of spring I was struck by the great and unusual prevalence of fever and bronchial affections. They did not seem however to be of a very severe type.

Reported Case of Leprosy.—A man from T'engchow-fu in Shantung applied to me for medicine to cure a friend affected with leprosy. The patient is 26 years old and has been affected with the disease for the last 4 or 5 years. He is married and has children. Neither his parents nor any other relatives have had any disease of this sort. His eyebrows have fallen off and there is anæsthesia of the hands, feet and body generally. His face is swollen and is of a red and black colour (bronzed). He supposes that he caught it from being exposed in some way to the *yin* exhalations of a low-lying damp locality. He says it is not very uncommon in parts of this province and thinks there is certainly 1 per mille.

Abstract of Thermometrical Observations.

Month.	Maxima.		Minima.		Averages.		Rain Fall.		Snow Fall.	
	Day.	Night.	Day.	Night.	Day.	Night.	Days.	Amount.	Days.	Amount.
October,	74°	54°	55°	34°	65°	46°	3	1¾ inch.	...	...
November,	55°	29°	27°	18°	45°	27°	1	⅛ „	...	...
December,	44°	26°	20°	9°	34°	17°	...	...	1	¾ inch.
January,	42°	21°	19°	2°	30°	12°	...	...	3	2½ inch.
February,	48°	25°	32°	10°	40°	17°	...	...	2	3½ „
March,	64°	36°	39°	20°	51°	33°	1	a little	4	2 „