



MEDICAL REPORTS

FOR THE

HALF YEAR ENDED 30TH SEPTEMBER 1873;

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

BEING No. 6 OF THE SERIES,

AND

FORMING THE SIXTH PART OF THE

CUSTOMS GAZETTE

FOR

JULY-SEPTEMBER, 1873.

PUBLISHED BY ORDER OF

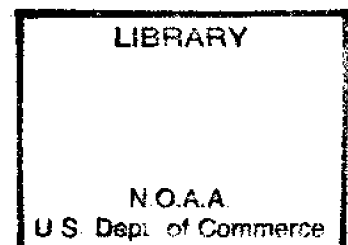
The Inspector General of Customs.

SHANGHAI:

IMPERIAL MARITIME CUSTOMS STATISTICAL DEPARTMENT.

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National Oceanic and Atmospheric Administration

Environmental Data Rescue Program

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INSPECTOR GENERAL'S Circular No. 19 of 1870.

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

SIR,

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

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

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

b.—Diseases prevalent at.....

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

d.—Relation of disease to { 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.—

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I am, &c.,

(signed)

ROBERT HART,

I. G.

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

SHANGHAI, 1st July, 1874.

SIR,

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

- A.—Report on the Health of Peking, for the half year ended 30th September, 1872, pp. 7-10;
- B.—Report on the Health of Peking, for the half year ended 31st March, 1873, pp. 11-13;
- C.—Report on the Health of Peking, pp. 14-19;
- D.—Report on the Health of Amoy, pp. 20-32;
- E.—Report on the Health of Hankow, pp. 33-37;
- F.—Report on the Health of Takow and Taiwan-foo, pp. 38-40; each of these four Reports relating to the April-September half year (1873);
- G.—Memorandum on Leprosy at Canton, pp. 41-47;
- H.—Report on the Health of Canton, pp. 48-51;
- I.—Report on the Health of Tientsin, pp. 52-53;
- K.—Report on the Health of Shanghai, pp. 54-69; each of these three Reports relating to the April-September half year (1873).

The delay in the appearance of this volume is due to a crush of more pressing work in the printing office of the Department. The manuscript has been ready for printing for many months; and much material for the next volume is already in hand. Should the reports still required to fill that volume be sent in within a few weeks, as I trust they will be, its publication will follow speedily upon this.

I would suggest that in all cases where Chinese names, whether of persons, places or things, are used, the characters should be filled in at least once. Some difficulty is now occasionally experienced in ascertaining the orthography of proper names where this precaution is not taken.

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.
P. MANSON, M.D., M. CH.,	} Amoy.
D. MANSON, M.D., M. CH.,	
A. G. REID, M.D., F.R.C.S.E.,	Hankow.
T. RENNIE, M.B., M. CH.,	Takow and Taiwan-fu.
F. WONG, M.D., L.R.C.S.E.,	Canton.
J. FRAZER, L.R.C.S.I., L.R.C.P.E.,	Tientsin.
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, 1872.*

DURING the year 1872, there were at Peking three deaths among children. One of these infants, which had been prematurely born, and was constitutionally very anæmic, died at the age of 13 months, surviving its mother, who died of puerperal fever a month after its birth, only one year. The immediate cause of death was sudden weaning. The second child was 10 months old, and died in June. Both children were carried off by diarrhoea. The third was a beloved daughter of the writer, who was removed by typhoid fever in the month of August at the age of 5 years; the youngest foreigner that has died of this disease, and the oldest child among 21 that have died here during the last 8 years. The two last cases occurred at the Western Hills. A case of diarrhoea in a child 10 months old, occurred in August 1868 in the same locality. Both infants were healthy and of healthy parents. I am inclined to think that the sudden changes of temperature sometimes experienced at the hills, especially the cold nights which occasionally set in after or during rain and when it is impossible to guard against such vicissitudes have had to do with attacks of diarrhoea and dysentery. Adults have been likewise attacked with diarrhoea at such seasons. The heavy rains of the previous two summers (1870 and 1871) damaged more or less all the temples to which foreigners resort in the summer, and rendered them almost uninhabitable. In the case of typhoid fever it is almost impossible to say how the disease was caught. One of the nurses was discovered to be sick on the day of arrival at the hills. Upon enquiry it was found that typhoid fever existed in her own family, her two children being ill with it. The nurse, a woman 53 years old, got daily worse, was delirious and much prostrated. She was not expected to recover, and her friends were anxious to get her back to the city. She recovered slowly. The little patient had no more intimate communication with this nurse than the other children and adults generally. She however rode to the hills in the same cart with her. She died 8 weeks after this period. About 4 weeks before her death she was playing for about an hour shortly before midday, with a broiling sun overhead, so that her neck and arms were blistered by the heat. About 10 days afterwards she complained once or twice of belly-ache, but fever did not shew itself till 10 days before her death. The well water was considered exceptionally good. There was no contact of alvine excreta with the water; the poison could not, so far as I know, have been introduced either in food or water. The vegetables supplied were fresh, and were not likely to have been washed, as is often the case in Chinese towns, in pools and city moats whither all the refuse flows or is thrown. It is not yet proved that the exhalations of drains, privies and stagnant surface water do contain or disseminate this poison, or that through such exhalations it can be absorbed into the system. It is remarkable that for years several cows have invariably taken ill when removed from the city, where they are fed almost exclusively on malt refuse, and allowed in part to pasture. The cows belonging to the locality do not seem to suffer in any way. In the summer of 1872, the cow belonging to the family in which the little patient died of diarrhoea (the baby was not weaned) took ill and ceased to give milk. Our cow had taken ill also and was changed for another whose calf afterwards died.

I have thus somewhat minutely referred to this case, partly from the deep interest it has for me and partly from the difficulty of ascertaining how the disease was caught. The temple was badly drained, and the courts were damp. There was also a privy close by which had not been cleaned out.

The only adult death was that of a Russian gentleman in the Customs service, which took place somewhat suddenly in March. He had suffered for years from constant headache, chiefly confined to the right side. He partook somewhat freely of spirits, and was dyspeptic. Within the last two years his memory began to fail; his speech latterly was at times thick and indistinct, and his hand shook. From

* This Report and that for the half year ended 31st March 1873 were postponed in order to avoid interference with the papers on the Physical Conditions of Peking published in Nos. 2 and 4 of the Series.

his history, iodide of potassium appeared indicated, but though he invariably improved under its use, he threw aside the medicine as soon as he felt somewhat better, and was only driven to it when the symptoms became urgent. Finally, one morning on rising from bed he found himself hemiplegic. In the course of a few days under the free use of the iodide, he again gained the use of the paralysed limbs and was able to move from one room to another with very little assistance. After passing several sleepless nights, 20 minims of the solution of muriate of morphia were administered, followed in an hour by 20 additional drops. This procured the desired object, but from this state he gradually passed into coma, in which condition he remained 12 hours, all efforts to rouse him proving utterly futile.

In this connexion I should like to refer to the supposed antagonism between opium and ague. Among the many ague patients seen, not a few have been opium smokers. I have not been able to trace any antagonistic effect between opium and malaria so as to enable me to pronounce with authority on the use of opium as an antidote. At the commencement of the opium trade at Canton, officials, from the north especially, were in the habit of partaking of the drug to prevent the depressing effects of the climate and the ague with which they were attacked or to which they were rendered liable. The Chinese then, as now also to some extent, were anxious to find some excuse for indulgence in the illegal drug. Doubtless the benefit which they derived from the soporific, was not in warding off ague or neutralising the poison of malaria, but simply as soothing the system and blunting sensibility. Sir Rutherford ALCOCK and Consul WINCHESTER have both given evidence lately before committees in London to the effect that the use of opium was specially adapted to counteract the deleterious influences from which the Chinese suffer; the determined predilection for this stimulant being attributed to the malarious character of the country. Both of these observers and witnesses have had long experience in China, and both belong to the medical profession, and it is therefore natural that great weight should be given to their statements. But it is enough to say that China, on the whole, is a mountainous country; that ague is almost unknown in many of the provinces; that opium smoking is general everywhere, and that smokers are, and from their weakened vital functions might be expected to be, attacked with intermittent fever.

Ague.—In a former report* I noticed the great prevalence of this affection owing to the rainfall and the inundated condition of the city and surrounding country. In previous years it was among the rarest of diseases, and this is ordinarily owing to the light, sandy, absorbent nature of the soil. Although the cases of ague were very numerous during 1871, that year was surpassed in the frequency of ague by 1872. The disease did not seem to reach its crisis till the end of summer and during autumn, that is when the waters began to abate and the effects of heat, moisture and decaying vegetable matter made havoc. There was much less rain in 1872 than in the previous year, but everything became more mouldy and musty during the latter year. The whole of this province was affected, and I suppose it must have prevailed more or less over all the North of China. Our great rains were not local. Among the first patients that applied for relief were men employed in the vegetable gardens outside the south gate of the southern city, and afterwards the affection became more general. In June about 10 per cent., in July 20 per cent., in August 30 per cent., in September nearly 40 per cent., and in October about 35 per cent. of all the patients seen at the Peking Hospital were affected with ague. In 23 days I noted daily the number of patients and the proportion affected with ague, and the results were as follows:—There were in all 1,274 patients, giving an average of 55 daily. Of the above number 434, nearly 34 per cent., or about 19 daily, were affected with ague. Our large supply of quinine was soon exhausted and I had recourse to FOWLER'S solution. For out-patients the quinine was preferred. It was more certain in its results, and one dose of 5 or 10 grains seldom failed to effect a cure. Cases now and then however occurred which seemed to resist the action of quinine, but which gave way readily to arsenite of potash. I have lately used a new preparation with good effect, namely the carbazotate of ammonia. Its action is similar to quinine. The efficacy of quinine is now recognised and widely known among the natives, and large quantities might be sold to them. I have not yet tried the hypodermic injection of carbolic acid as recommended by some French surgeons.

* *Customs Medical Reports*, No. 3, p. 7.

ABSTRACT of Thermometrical Observations taken at Peking in the open air facing the North,
from 1st April to 30th September, 1872.

Long E. $116^{\circ} 27'$ or 7h. 45m. 50s; Lat. N. $39^{\circ} 55'$.

1872.	MAXIMA.		MINIMA.		AVERAGES.		RAINFALL.	
	Day.	Night.	Day.	Night.	Day.	Night.	Days.	Amount.
April,.....	80°	55°	53°	27°	68°	45°	5	$\frac{3}{4}$ inch.
May,.....	94°	67°	70°	44°	82°	57°	4	$1\frac{1}{4}$ "
June,.....	95°	73°	76°	54°	88°	67°	11	4 "
July,.....	97°	79°	76°	68°	90°	73°	11	$15\frac{1}{4}$ "
August,.....	95°	79°	70°	59°	86°	66°	11	$4\frac{1}{4}$ "
September,.....	84°	68°	62°	48°	78°	60°	11	$3\frac{1}{4}$ "

REMARKS.—On the 4th July it rained 7 inches in 10 hours—3 of which were in 1 hour. The two hottest days were July 20th and 21st, equal. The hottest nights were July 16th and August 2nd.

Supplementary Note on the Population and Mortality of Peking.—The following statistics are copied from an article by SACHAROFF in Russian, from a work with the title (German translation) "Arbeiten der Kaiserlich Russischen Gesandtschaft zu Peking." It was printed in the "North China Herald" of October 15th, 1859.

TABLES of the Population of Peking and its Environs within the districts Taining and Wanping, prepared by the City Magistrates in 1845 and 1846.

Population of Peking according to the revised list for 1845, the Suburbs not being included.			Population of Peking and its Suburbs, including the whole of the two districts according to the Police List for the year 1846.		
Class of Population.	Number of Families.	Number of Persons.	Class of Population.	Number of Families.	Number of Persons.
Civil and Military Officers,.....	26,486	75,752	Civil and Military Officers, Chinese, Manchu and Mongolian, holding offices,.....	15,866	74,615
Soldiers and Police,.....	125,346	348,652	Officers not in office,.....	23,703	101,126
Lower class and Monks,.....	191,586	577,564	Soldiers of the 8 Banners, Manchu, Mongol and Chinese,.....	76,584	168,631
Turkestan Colonists,.....	19,369	89,188	Chinese Soldiers and Militia,.....	35,642	65,763
Tradesmen and Artificers,.....	186,986	557,658	Lower class Natives of the two districts, Lower class Colonists from other pro- vinces and districts,.....	112,864	208,963
			Turkestan Colonists,.....	32,459	148,984
			Monks and Nuns,.....	...	10,704
			Tradesmen and Artificers,.....	359,394	1,349,650
			Temporary inhabitants without dwell- ing or occupation,.....	...	155,863
Total,.....	549,773	1,648,814	Total,.....	795,092	2,554,159

The number here given of civil and military officers and their families includes natives of Peking residing in other parts of the country, as servants of the Emperor.

I give the above table for what it is worth—the numbers stated can hardly be considered trust-worthy, viewed in the light of my remarks on the population and general condition of Peking. It is a

question whether the city ever contained or could contain so many. The highest estimate formed in 1862, by a gentleman well qualified to judge, who was in the habit of riding in early morning through all parts of the city and suburbs successively, and from a review of the quantities of provisions, vegetables, mutton, pork, &c. which he saw brought in, was about 1,000,000. I myself feel inclined to place it somewhere between 800,000 and 1,200,000. Those who estimate the population at 500,000 are certainly far below the mark.

TABLE of Deaths at Peking within the Walls in 1845.

MONTHS.	NUMBER OF DEATHS, MALE AND FEMALE.	REMARKS.
1st,	3,952	According to this table the greatest mortality is in the 9th Month. Children are not included in this table. They are buried privately, or taken to the morgues outside the city to be removed by bullock carts for interment in the public burying ground. All burials are without the city. Supposing the population to be 1,648,814, the mortality for one year is nearly one person in 42 or about 24 per mille, the death-rate of London. If to this however we add the children, the rate must be greatly increased.
2nd,	3,851	
3rd,	3,002	
4th,	2,565	
5th,	3,705	
6th,	2,333	
7th,	2,721	
8th,	3,571	
9th,	5,129	
10th,	2,469	
11th,	3,577	
12th,	2,563	
Total,	39,438	

A close approximation to the population of the Tartar or Northern city might be obtained by noting the number of funerals that pass out of the nine gates. The quantity of salt or coals consumed would be another test, a better test than the quantity of meat and vegetables consumed. The official lists of the population derived from the *Hu pu* are doubtless greatly in advance of the actual number. In Peking to obtain such a list it is simply necessary for the householder to certify to the number under his roof, and as he would be liable to be fined if at any time the number was exceeded, he takes care to allow a margin. There being no tax on the number of individuals residing in any given house there is no inducement to abide by the strict truth. This may explain to some extent, the high estimate of the population of the capital, and probably also of the Empire generally.

B.—Dr. John DUDGEON'S Report on the Health of Peking for the half year
ended 31st March, 1873.

No deaths took place among the foreign community during the six months under notice. Ague which had extensively prevailed during the summer and autumn, gave way before the approach of the colder weather in December and January. Continued fever was pretty prevalent. This affection seems seldom to be completely absent from Peking. The wonder is that more persons are not attacked, when the filthy condition of the streets and drains, and the careless and dirty habits of the people are considered. We were not visited by small-pox as in the few previous winters. Vaccination is not practised among the Chinese during winter, and there is the greatest difficulty in keeping up the supply of lymph during that season. Only one native vaccinator, a semi-official one, and of long standing, who has branch establishments at Tientsin in this province and at Taiyuen-fu in Shansi, is able to keep it up. His method is to hire poor children during the winter, who live in his establishment.

A good deal of diphtheria was prevalent among the natives. One foreign child, not under my care, was said to have presented symptoms of this affection, which being attended to early passed off. All that was observed was a white speck on the throat which was brushed with a strong solution of alum. The child, about 3 years of age, had a good deal of constitutional disturbance afterwards, probably some kind of remittent fever, which caused much anxiety. About the same time, the month of February, several members of a Chinese family were attacked. The father and one of the sons were teachers of the language in foreign houses where there were numerous children. The father, his daughter-in-law (eldest son's wife) and grand-daughter (eldest son's daughter) were carried off some time after the sixth day. The mother, her daughter-in-law (younger son's wife) her younger daughter and grand-daughter (eldest son's eldest daughter) were attacked also, but were rescued. Those saved were seen early, not later than the second day; those that died were not seen till after the fifth day. I have seen only one patient—an adult—recover after the sixth day. In the above family, those that died were the first attacked and almost simultaneously. Those attacked later applied early, in fact while the earlier ones were under treatment, and after they had received a caution to apply at once on feeling any stiffness and tightness of the throat. The only members of the family not attacked were the two sons and the eldest daughter. While I now write (February 1874) just a year afterwards, another member of the same family, the eldest daughter,—married—has been carried off by diphtheria. Application was made for assistance on the sixth day. She died the day following. No foreigners have as yet been attacked. The families in which the father and son were teachers were not at all affected.

I have had occasion to call attention to the absence of calculous disease at Peking, and I believe the same is true of the North of China generally. I had occasion lately to remove another stone* from the navicular fossa in a child 10 years of age. It had existed in the urethra for 4 years, giving great pain and rendering the passage of urine difficult. The stone, which weighed 10 grains, was easily removed. About the same time another case of a similar kind occurred in an adult. The stone weighed 12 grains and resembled a toy tree, having a root, neck and conical body.

In speaking of stone, I may here mention the case of a man with a tumour the size of a pigeon's egg, on the right temple, of 8 years standing. It had broken or was punctured but refused to heal. On laying it open I found a rough flat round stone at its base which weighed about a scruple.

* *Customs Medical Reports*, No. 1, p. 122.

But although I have not yet had a case of calculus in the bladder, I have had two median operations for the extraction of foreign bodies. One was a piece of a round chopstick, five inches long and of the size of a No. 9 catheter. It had been in the bladder for 4 days; the patient was unable to stand erect; had intense pain; voided urine with difficulty, and there was a constant bloody discharge. He had been in the habit for years of introducing it into his urethra, but on the last occasion he failed to retire it. The patient recovered.

In the second case, a piece of lead $2\frac{1}{2}$ inches long was extracted. The piece weighed 256 grains. The patient possessed several such bougies. The full-sized one weighed 570 grains, and measured $2\frac{1}{4}$ inches. This patient also made a good recovery. He had practised introducing these metallic rods into the urethra for 10 years, with the view of strengthening the constitution and preventing spermatorrhœa. He was an opium smoker. Lead bougies rubbed with mercury are likewise used in gonorrhœa and other affections of the urethra. These practices, the patient informed me, formed a part of the observances of one of the Taoist sects in Manchuria.

An interesting case of gunshot wound occurred in a man. The ball penetrated from behind, and was apparently lodged a little below the apex of the heart, 1 inch below the nipple and slightly to the outer side of a line drawn perpendicularly from it. Between the 5th and 6th ribs, in the above position, I felt a hard substance which I supposed must be the bullet. The whole region was discoloured. I cut down upon it and extracted the bullet along with a piece of blue cotton cloth, part of the man's garment. He had expectorated a large quantity of blood.

About the same time I extracted a piece of bone from the calf of a soldier's leg, which had been lodged there for 2 years. It was the result of a gunshot wound. The bone was quite movable and appeared as if freshly fractured; there was no inflammation, no abscess, no pus. A bullet had also passed through his face close to the malar bones. He had lost all sense of smell. His pronunciation of the letter R was defective, and in very cold or very windy weather he had difficulty in articulating.

Two cases of bites, one by a bear and the other by a camel, both of which ended fatally, are interesting from their rarity. In the former case, a boy 8 years old, one of a bear exhibiting company, was bitten in the arm and scratched all over the body. Twenty days after the bite, I amputated the arm a little below the shoulder joint. Nothing remained below this point but the bare ulna and radius and black shrivelled hand. A large abscess over the spine was opened at the same time. The boy recovered, but I learned afterwards that he died, apparently from the effects of the poisonous saliva of the bear. The other case was a bite by a bull camel in the left leg, through thickly wadded trousers, the tibia and fibula being fractured just below the knee and the lower portion of the tibia projecting several inches through the wound. The whole leg was gangrenous, and the patient was brought to me, 7 days after the accident, in a moribund condition. He died the following day, no amputation having been performed. Bull camels are very fierce, and in the streets of Peking are always muzzled.

I may here mention the case of a lad reported to me as having been bitten by a neighbour's dog, not known to be mad, but which was nevertheless afterwards destroyed. The wound in the hand healed on the following day. Forty-seven days after the bite, the youth began to feel pain in the palm, which soon extended up the arm, and in the same night prevented him from sleeping. He was unable to swallow from some apparent obstruction in the throat. I ordered ice bags to the spine and ice *ad libitum* by the mouth but I have not yet learned the result, although the father promised to come and take me to see the case. In cases of canine madness the Pekingese consider it an infallible remedy for the patient to swallow the body of a Spanish fly, * the greatest quietness being observed in the house. The noise of bells, drums, gongs or the rattling of dishes will cause a fatal termination. The result of the treatment is that several clots pass from the urethra after the administration of the cantharis, supposed by some to be the poison of the rabid animal, and by others, small dogs formed in the system by the poison. I have been seriously informed by some Chinese that they know and have heard of cases cured by this means.

* Compare Dr. REID's remarks in *Customs Medical Reports*, No. 5, pp. 32 *et seq.*

ABSTRACT of Thermometrical Observations, from 1st October 1872 to 31st March 1873.

1872.	MAXIMA.		MINIMA.		AVERAGES.		RAINFALL.		SNOWFALL.	
	Day.	Night.	Day.	Night.	Day.	Night.	Days.	Amount.	Days.	Amount.
October,	73°	56°	54°	31°	66°	44°	1	¼ inch.	...	...
November,	63°	41°	33°	14°	48°	27°	2	a little	1	⅝ inch.
December,	47°	28°	25°	8°	39°	20°	...	...	2	a little
1873.										
January,	37°	23°	22°	5°	31°	13°	...	...	1	a little
February,	57°	33°	28°	9°	42°	18°	...	...	2	2 inches.
March,	70°	41°	37°	10°	53°	26°	...	...	..	...

REMARKS.—The only shower of rain in October was on the 17th, the day succeeding that of the marriage of the Emperor. An inappreciable amount of snow fell during two days of December and one of January. March was without either rain or snow. The coldest day was January 13th; the coldest night January 29th.

C.—Dr. JOHN DUDGEON'S Report on the Health of Peking for the half year ended
30th September, 1873.

DURING the past six months there was nothing of special interest to note regarding the health of Peking. A reference to the table on page 19, giving an abstract of thermometrical observations, will furnish all that need be said of the climate. The summer was short and cool. There was only one death, that of a child 3 years of age, in the month of July, from *tabes mesenterica*. The child was constitutionally feeble, and had previously had three very dangerous illnesses. Another child of 2 years of age was long and seriously ill with diarrhoea in July and August, but it recovered. When I add some little fever, and fever and ague among one or two foreigners, I have mentioned all that is worth reporting in relation to climate, as bearing upon the health of the foreign community. The native population did not seem to suffer from epidemics of any kind during the period under review.

The most common affection was ague. It has prevailed in this district each summer and autumn for the last 3 or 4 years, owing doubtless to the great floods which inundated large tracts of the country and rendered everything and every place damp. This, coupled with the great heat acting on decaying vegetable matter, fully accounted for the prevalence of the disease. During the winter and spring months it was almost entirely absent, but on the return of the warm weather in June it broke out afresh. During the last five days of June there were 62 patients attended to at the hospital. In July there were 377 patients with ague, out of an aggregate of 1,427, which is equal to about 26 per cent., but as the ague patients were generally cured after one visit—very few having returned a second time for the same attack, and still fewer for a second attack after some interval of time,—the percentage ought to appear greater. In relation to new patients, male and female, that is patients reckoned only once on their first visit, the percentage of ague patients would be about 60 per cent. In August, out of an aggregate of 1,652 patients seen, 363 were with ague, or about 22 per cent. in the aggregate, or over 45 per cent. on the new patients. In September the aggregate number of patients attended to for all diseases was 1,399, of whom there were 310 with ague, or about 22 per cent., or if one reckons new cases only, over 40 per cent., making a small allowance for return cases. On some days ague and itch constituted almost the only varieties of disease seen. The cases were not confined to the city, but multitudes poured in from the surrounding country. At the Western Hills in the summer, the demand was excessive, and latterly all the wants of the villagers could with difficulty be attended to. Among the natives I heard of not a few cases of very old persons succumbing to attacks of ague.

The disease did not stop with the approach of the cold weather as in former years, but prevailed with great virulence till the very end of November, and did not show signs of decreasing till late in December. The early cases seen had had few attacks. Those seen later complained of attacks for two and three months. At first, the patients came themselves, but latterly friends came beseeching a dose of quinine for relatives so weak or so distant that it was impossible for the individuals themselves to come. As we began to run short of quinine and FOWLER'S solution towards the end of the summer, only those patients, with very few exceptions, who came in person secured a dose of the remedy. Caution of this sort was rendered all the more necessary as deception might have been practised upon us—the medicine being obtained on false pretences and sold to patients. All such persons are not included in our lists of ague patients.

In the spring and summer itch predominated largely. The beggars issue in the spring from the Imperial House of Refuge covered with itch, psoriasis, boils and cutaneous disease. These beggars, from their

scanty clothing in summer, are readily cured with sulphur ointment. Itch is not at all uncommon among the lower and middle classes, and from want of under garments which can be changed or washed, it is extremely difficult to cure them radically. The Chinese attribute itch to dampness,—they are quite unaware of its true character.

In addition to the Chinese notions of ague detailed at page 7 of the *Customs Medical Reports* No. 3, the following remarks will perhaps prove interesting.*

The different forms of ague recognised in their books, apart altogether from the causes already mentioned, are, first, a cold stage followed by a hot stage, which is attributed to the great moist heat of summer, causing copious perspiration and thus opening the pores of the skin, and which is succeeded by a chill received from exposure to wet (rain) checking the perspiration. The ague thus furtively introduced lies concealed under the skin until it is awakened to energy by the autumnal breezes. The cold is the result of the *yin* vapour or air, and the wind is the *yang* air, and it is on this account that the attack is first cold and then hot. This is the view advanced in the *Neiking*. The second form, first hot and then cold, is just the reverse, and is explained on the same philosophical grounds. The first form is called cold ague, the latter torpid ague. Another form mentioned is the hot stage without the cold stage, and here there is the total absence of the *yin* and the presence of the *yang* air only. In this form there is great discomfort, uneasiness and nausea, and from its being hot only is called *shan* 疝 ague. When there is a large quantity of the warm air hidden under the skin, the attacks come every day; when less, every alternate day, and when still less, every two days or only after several days.

The remedies for ague, as for all other diseases, are legion. All the remedies or recipes that have been prescribed during the last 3,000 years are appended to almost every medical treatise under the various subjects. I can give only a few to indicate their character.

- 1.—R. Cinnamon;
Fang-feng (防風, rad. *libanotidis*),
Liquorice, ǎǎ 1½ mace. Infuse.

This is the most common mode of administering drugs in China. This remedy is useful in cases of perspiration.

- 2.—In cases when perspiration is absent :—
R. No. 1, with the addition of *Ma-hwang* (麻黃 *ephedra*).
- 3.—In the daily form and cold and hot alternately :—
R. *C'hai-hu* (柴胡, rad. *bupleuri octoradiati*) 2 mace,
Kwei-chih (桂枝, cinnamon),
Huang-chin (黃芩, rad. *scutellariæ viscidulæ*),
Ginseng,
Shwob-yueh (芍藥, rad. *pæoniæ albifloræ*),
Pan-hsia (半夏, rad. *ari macrori*) ǎǎ 1 mace,
Liquorice 5 candareens,
Ginger 3 slices,
Jujubes 2.

The treatment for day attacks and night attacks of ague is different. One remedy is the following; if it should prove too hot to take, a little camphor is to be added.

- 4.—R. *Ti-lung* (地龍, *lumbricus*)
Ginger,
Peppermint,
Honey,
Water, } q. s.

Another prescription is tortoise-shell reduced to powder. A third is composed of centipedes; a fourth of the skull of a tiger; a fifth of the excrement of foxes; a sixth of the flesh of fox, and so on.

* See also page 22 *et seq.* of this volume.

A recipe of repute for *mother ague* (母瘧) *i.e.* when there is great enlargement of the abdomen (spleen?) is—

- 5.—R. Assafoetida,
Hsiung-hwang (雄黃, realgar) $\bar{a}\bar{a}$ $2\frac{1}{2}$ mace,
 Vermilion, $1\frac{1}{2}$ mace.

The assafoetida is to be boiled, and the other ingredients to be afterwards rubbed up in it.

Several celebrated ague recipes are styled the *Barrier Prescriptions*, because they cut short the attack and cure the patient for ever, thus rendering a future attack utterly impossible. The medicine requires to be taken once only and the action resembles a divine method.

- 6.—R. *Ch'ang-shan* (常山, rad. *lysimachiae*) $1\frac{1}{2}$ mace,
Ping-lang (betel-nut) 1 mace,
 Cloves $\frac{1}{2}$ mace,
Wu-mei (烏梅, black plum) 1,
 Spirit 1 cup. Infuse. The mixture is to be taken warm on the morning of the day of attack.

This recipe is highly spoken of. It is given as a tonic, this class of medicines being considered very efficacious.

Ginseng is recommended extensively in a series of prescriptions, and comes next to cinnamon in the order of frequency.

There are also magical remedies laid down, of which the following will serve as a specimen:—

- | | |
|----------------------------------------------------------------------------|----------------------------|
| 7.—On the East, place patow, semina <i>crotonis tiglii</i> , | } $\bar{a}\bar{a}$ 3 mace. |
| " " South " cassia, | |
| " " Middle " <i>hsiung-hwang</i> , | |
| " " West " alum, | |
| " " North " <i>ch'ing-t'ai</i> (靑黛, pigmentum caeruleum; indigo),... | |

On the morning of the 5th day of the 5th month prepare the above prescription, and put each of the ingredients on a separate tray, taking care to prevent cats, dogs and women from looking upon them. At noon get five glutinous rice puddings (they are triangular in form) from friends, remove the apices from the cakes and knead them together, rubbing up the medicines with them. From this pill mass make pills the size of small marbles, and let the ague patient take one, thinly enveloped in cotton wool, early on the morning of the day of attack, and introduce it, if a male patient, into the left nostril, and if a female, into the right, and abstain from all food and drink.

To cut ague short in a spirit-like manner, the following is strongly recommended:—

- 8.—R. Arsenic 2 mace,
 Large spiders 3,
 Round black beans 49. Rub them all up and make into pills, the size of small buttons, and on the night before the fit occurs, take one pill under the star called *peitow* (北斗) and on the following morning wrap up one in cotton wool, and if a male person, put it into the left ear, and if a female, into the right, and the patient will immediately recover. One of these pills will infallibly cure two individuals.

It is thus somewhat remarkable that the Chinese should have been following for several thousands of years, among others, a tonic and arsenical treatment. The confidence with which the drugs are given would indicate, unless their whole system from beginning to end is quackery, that their experience must have taught them the efficacy of many of them. The names by which the prescriptions are known are sometimes very high-flown, such as "The great, instantaneous, god-like, infallible, speedy, sure, once-to-be-taken ague remedy." I have had no experience of any of the native remedies, but the fact that so many patients come to us for treatment seems to cast doubt on the efficacy of the native nostrums.

Opium Poisoning.—Attempts at suicide by means of opium come frequently under the notice of foreign physicians at the ports. China, unfortunately, from a variety of reasons, is the best field for investigating the effects of this drug and testing the various remedies and specifics that are recommended. Dr. JOHNSTON of Shanghai has given, in the Report of the Chinese Hospital for 1871, and latterly through the columns of the *Medical Times and Gazette*, his experience of 16 cases of opium poisoning treated by atropine, in which 10 recovered and 6 died. Dr. JOHNSTON's article has called forth a reply in the *Medical Times and Gazette* (September 21st, 1872, p. 342) in which atropine is condemned, and Dr. HARLEY's work *The Old Vegetable Neurotics*, p. 300, is quoted as shewing that the effect of atropine is to increase the cerebral and anæsthetic effects of opium, and that the influence of belladonna in removing the respiratory difficulty is slight and ineffectual, since it extends only to the release of the bronchial tubes, without affecting the diaphragm or external muscles of respiration. The conclusions arrived at by Dr. HARLEY are—(1), that the evidence of antagonism in any given case is inconclusive; (2), that taken individually or collectively the cases show that belladonna has no influence whatever in accelerating recovery from the poisonous effects of opium; (3), that somnolency, stupor, narcotism and coma—the essential effects of the action of opium—are both intensified and prolonged by the concurrent action of belladonna, and (4), that belladonna is powerless to obviate the chief danger in opium poisoning, viz., the depression of the respiratory function. Strychnine* has been proved by Mr. MAVOR, a veterinary surgeon, to be a certain antidote to opium in horses and dogs.

In the same number of the *Medical Times and Gazette* a quotation is given from the *Bulletin de l'Académie* (August 27th) of the successful treatment by muriate of morphia of a case of atropine poisoning, caused by the administration of an over-dose in subcutaneous injection for sciatica. So convinced was the writer of its power in this respect, that notwithstanding its risk, he resolved to use it, being satisfied that he could always meet the danger by morphia.

Dr. HARDEY of Hankow relates, in his Hospital Report for 1872, 3 cases of opium poisoning treated by atropine, out of which two died. I cannot but think that his 3 cases go rather to prove Dr. HARLEY's conclusions. I have had no opportunity, all these 10 years, of trying any treatment, so I cannot speak from experience. In the cases already before the profession, however, there is enough to cause doubt and to demand further investigation. Dr. HARDEY's first case ends thus—"The respiration continued to get quieter and the pulse weaker and she died at 2 A.M." He had injected $\frac{1}{2}$ gr. of atropine at 1.30. His second case died an hour and a quarter after the injection, and he remarks—"had other means," (brandy, &c., I suppose) "been at hand he might perhaps have been saved." His third case, the only one that survived, had $\frac{1}{8}$ gr. injected at 6.45, and coffee was occasionally administered; between 7 and 8 coma came on and his pulse fell in an alarming manner, so that coffee, ammonia and brandy were injected per rectum, which restored the failing heart. He recovered." The italics are mine. Dr. HARDEY is convinced from his observations on the above three cases of the great value of atropine, and is resolved to continue to employ it in cases of similar severity. But he adds very significantly "I feel convinced that had I not injected the brandy and ammonia in the last case" (he used none in the two former) "he would have died from exhaustion."

I draw attention to these cases with the view of eliciting more information on so important a subject. In this connexion I may add the experience in regard to atropine of an American Missionary, Mr. PIERSON, who has been resident at U-chow, a city of about 20,000 inhabitants, 140 miles to the West of Peking. I had called his attention to the treatment by atropine and advised a trial. I had myself at that time no misgivings regarding this mode of treatment, and I was much surprised to receive an unfavourable report from him. Seeing that the subject has since been ventilated and others are testing the use of this drug, I requested Mr. PIERSON to give me a few short notes of his cases with a view to publication. His statements are from memory, his note book having been left behind at U-chow. His dose of 2 grains was certainly too large, although it is highly probable that in his hands a portion was lost in the act of injection. Dr. JOHNSTON's maximum dose was $\frac{3}{4}$ grain, Dr. HARDEY thinks it would be safer to begin with smaller doses than $\frac{1}{4}$ and $\frac{1}{2}$ grain and to repeat them according to the necessities of the case. It will be observed

* See Dr. SBEARER's cases in *Customs Medical Reports* No. 3, p. 62.

that Mr. PIERSON in his last cases has ceased to use atropine, his doubts coinciding with my own, and so inclining him to give up its further employment.

"About the end of February 1872, a case of attempted suicide came to my attention, and since that time others have followed, so that during the 7 months in which my colleague Dr. TREAT has left his medical stores in my hands, I have been called, either alone or in company with others, to attend 11 cases of opium poisoning, all of which were attempted suicides. A twelfth I attended in company with Dr. TREAT. Of these 12 cases, one had ceased to breathe when I arrived, and another so shortly after my arrival that I was able to do almost nothing for him. The amounts taken were from 75 grains to 350 grains; generally in the form of the paste prepared for smoking. The latter amount was that taken by one who habitually used the drug in smoking. The remedies I have employed have been—(1), emetics (warm mustard water and sulphate of zinc) always used vigorously; (2), draughts of strong coffee or tea, taken after the vomiting had seemed to have relieved the stomach of all that could be raised; (3), enemata of strong coffee or tea applied frequently from the first; (4), vigorous and continuous rousings, mostly by walking, (this I have relied largely upon and by it have seemed to be able to keep several patients from falling into a comatose state); (5), in the worst cases, chafing of the extremities; (6), in 4 cases I have used subcutaneous injections of atropine,—giving 2 grains as a dose. As you ask me specially concerning the use of atropine, I will detail these 4 cases:—

"a.—Strong man of 28 years, about 115 grains of opium 3 or 4 hours before my arrival. Having given the atropine, 1½ hours elapsed and then he fell into a stupor, with just enough consciousness to resist all attempts to give medicine. From this he was saved mainly by being dragged about and compelled to step over obstructions which had been put in his way. On recovery he denied all knowledge of resistance.

"b.—Man aged 20, strong bodied, dose about 150 grains, was flushed and excited when I arrived, but during the application of the injection, he fell into coma from which I was unable to rouse him. Having great hopes that good effects would ensue from the atropine I resorted at times to artificial respiration. Electricity, applied by the rectum and hand, seemed to rouse him once to partial consciousness, but at a later time another application was followed by evident decline in pulse and respiration. Finally, giving up all hope of recovery as he was, I gave an additional injection of atropine. It produced no good effect but rather the reverse. After 13 hours of treatment the patient died.

"c.—Boy, 15 years old, had taken 180 grains or more, 5 hours before my arrival. Was excited and feverish when I first saw him. About 15 minutes after the injection of atropine he fell into coma and I was unable to rouse him from it. In about 12 hours he died.

"d.—Man of 25 years of age, strong bodied, dose 115 grains or less, taken 9 hours before my arrival. When I first saw him he was partially conscious. The atropine was followed by increased stupor and derangement, and the patient could scarcely be forced to swallow. In 3 hours I ventured to leave him. He recovered and the next day came to me for medicine to relieve the hard swelling about the place of injection.

"Of the remaining six cases, two were very severe but all lived.

"In the doses which I have given (2 grains) I think the atropine has rather been a detriment than a help. In the last 3 cases I have not used it. When I have not had coffee, I have used tea and it seems to have had similar effects, perhaps as good."

In the *Dublin Journal of Medical Sciences*, July 1872, p. 38, FIRMY relates a case of antagonism between atropine and morphine, and Dr. A. LITTLE in the *Philadelphia Medical and Surgical Reports* xxiv., p. 334, asserts that the antagonism between belladonna and opium is incontestably established, and brings forward a series of cases. I refer to these two writers as showing the evidence on the other side of the question. Beyond doubt, atropine neutralises or counteracts some of the effects produced by opium, but whether the lethal action of the latter is prevented by the administration of the former is the point in dispute and for the elucidation of which I have now drawn attention to the subject.

Opium poisoning, so frequently used throughout China by suicides, is almost unknown here. During the last 9 years one case only has come to my knowledge. Within the last month, however, 3 cases have been brought under my notice; one was saved by an emetic, the others were dead before application for help was made. Some of the Chinese have an idea that a person poisoned by opium may be resuscitated at any time within 7 days. The knife applied to the throat or abdomen is the chief instrument employed to take life, and to be revenged on another person. During the year there has seldom been a month without one such case or more. They generally recover, the wounds not penetrating deeply or to vital organs.

Nævus of the Tongue.—A case of this rare affection was seen in a child 18 months old, from T'ung-chow, near Peking. At birth a small black spot was observed at the base of the tongue. This coloured patch gradually increased, and the organ assumed large dimensions. Ulceration near the tip set in and for a time a cure seemed possible; but eventually the part assumed larger proportions, the child was unable to take nourishment, and so a fatal result followed.

Choroiditis hyperplastica.—This disease of the eye is described by BADER (*The Human Eye*; p. 12) but in no other of the many ophthalmic treatises that I have consulted. A case of it was seen in a child 3 years of age. It is said to depend on a strumous deposit behind the lens. The left eye became suddenly blind 9 months after birth. The eye ball is greatly atrophied, the cornea clear but flat, and the iris, lens and vitreous humour have a chalky appearance. At 18 months old the right (sound) eye became affected like the other, and within a month vision was completely lost. When I saw it, the whole ball inside the pupil was of a brilliant yellow colour; blood vessels were seen on the retina with the naked eye. The yellow substance was in this case not immediately behind the lens but in the retinal region. Cod liver oil with mercurial inunction, as recommended by BADER, continued for a month produced no benefit, and the patient has been lost sight of.

ABSTRACT of Thermometrical Observations, from 1st April to 30th September 1873.

1873.	MAXIMA.		MINIMA.		AVERAGES.		RAINFALL.	
	Day.	Night.	Day.	Night.	Day.	Night.	Days.	Amount.
April,	84°	55°	55°	31°	71°	47°	4	1 ¹ / ₈ inch.
May,	99°	71°	68°	46°	84°	57°	4	2 ³ / ₄ "
June,	105°	75°	70°	53°	83°	67°	8	½ "
July,	100°	79°	73°	62°	88°	71°	16	14 "
August,	90°	76°	71°	62°	80°	67°	17	13 ³ / ₄ "
September,	86°	70°	66°	46°	78°	59°	6	2 ¹ / ₈ "

REMARKS.—The hottest day was June 29th, the day on which the Foreign Ministers were admitted to an audience of the Emperor. The air was stifling and felt like the heat of a furnace. The following day the thermometer stood at 102°, which was succeeded by the hottest night of the year, 79°, and that again was followed by a hot day at 100°, the only three days, and consecutive too, at which the thermometer stood at or above 100 degrees. A shower of rain of 1 ¹/₂ inches cooled earth and air and caused the thermometer to sink to 80° by day and 67° by night. The great heat was gone, and earlier than usual. The season on the whole was one of the coolest we have had. On the 30th of May there was a fall of ¹/₂ inch of rain with hail. It rained almost nothing in June; plenty of cloudy days and threatening to rain but it came to very little, a N.W. wind springing up and clearing the sky. This is a very common occurrence at Peking both in summer and winter. From the 18th to the 21st June a few drops fell each day. From the 14th to the 18th of July inclusive it rained each day; in all 4 ¹/₂ inches; from the 21st to the 26th inclusive, the 22nd excepted, it rained 8 ¹/₂ inches. From the 29th July to the 9th August, it rained every day except two, and the rainfall amounted to 10 inches.

D.—The Drs. MANSON'S Report on the Health of Amoy for the half year ended
30th September 1873.

DURING the last six months, the health of natives and foreigners was unusually good. No serious case of climatic disease occurred among the foreign residents, and beyond a very limited epidemic of dysentery during August and September, the health of the native population was equally satisfactory. We had abundance of rain, and rice was plentiful and cheap.

A report reached us in May or June that dengue had reappeared in Chio-boey—a small town about 10 miles from Amoy. We visited the place, and saw several individuals who were said to have had the disease, and one case in which something like a fading dengue eruption was visible. If the disease was indeed dengue, the epidemic was very circumscribed, for nothing since has been heard on the subject.

In consequence of the cholera prevailing in India and the Straits Settlements, a quarantine was established for some time for vessels coming from infected ports. The crews were inspected before entering the inner harbour, but, fortunately, in no instance did anything like a history of cholera present itself so as to make isolation necessary.

In our last report* we called attention to an epidemic of syphilis of a very extensive and virulent character. This has now subsided. Lately, however, we have had to treat two cases of phagedænic chancre of a most intractable nature.

Two deaths occurred among residents during the six months, both from phthisis. One came to Amoy from Kelung in a very advanced stage of the disease and died in hospital; the other was that of a resident who died at sea from profuse hæmoptysis, on the return voyage from Newchwang, whither he had gone for change.

During the six months the crews of 130 vessels came under observation; the average stay of each vessel in port was about 19 days; the crews consisted of 896 Europeans, 304 Malays, 261 Chinese, and 20 Japanese; total 1,481.

List of Cases of Disease occurring among the floating population from 1st April to 30th September, 1873.

1.— <i>Miasmatic Diseases.</i>	4.— <i>Diseases of Circulatory and Respiratory Organs.</i>
15 cases of intermittent fever.	2 cases of phthisis.
2 " " small-pox.	3 " " bronchitis.
2.— <i>Enthetic Diseases.</i>	1 " " angina pectoris.
35 cases of gonorrhœa.	5.— <i>Diathetic Diseases.</i>
13 " " primary venereal sore.	10 cases of rheumatism.
26 " " constitutional syphilis.	1 " " acute rheumatism.
6 " " bubo.	1 " " gout.
3.— <i>Diseases of the Digestive Organs.</i>	6.— <i>Diseases of the Generative Organs.</i>
46 cases of diarrhœa.	3 cases of stricture of the urethra.
2 " " dysentery.	1 " " spermatorrhœa.
11 " " dyspepsia.	7.— <i>Diseases of the Integuments.</i>
6 " " piles.	10 cases of boils.
3 " " lumbricus.	1 " " ulcer of leg.
4 " " tapeworm.	2 " " itch.
2 " " hepatitis.	

* *Customs Medical Reports*, No. 5, p. 7.

7.—*Diseases of the Integuments*—continued.

- 2 cases of ringworm.
- 3 " " abscess.
- 3 " " whitlow.

8.—*Diseases of the Eye.*

- 2 cases of conjunctivitis.
- 2 " " pterygium.

9.—*Accidents.*

- 3 cases of incised wound.
- 3 " " sprain.
- 1 " " compound fracture of tibia.

9.—*Accidents*—continued.

- 1 case of fracture of the skull.
- 1 " " fracture of the spine.
- 1 " " foreign body in the bladder.

10.—*Other Diseases.*

- 2 cases of alcoholism.
- 1 " " synovitis.
- 1 " " cystitis.
- 2 " " neuralgia.
- 2 " " otitis.
- 1 " " epilepsy.

There were 5 deaths among the shipping, viz., 1 case of infantile diarrhoea, occurring in May; 1 case of abscess of the liver and dysentery; 1 case of fracture of the skull; 1 case of fracture of the spine, and 1 case in which the cause of death was uncertain. We had not an opportunity of seeing this last case before death, but the circumstances were as follows:—The subject was a Malay, a seaman on board a vessel which arrived in Amoy in September, after a month's passage from the Straits. During the voyage he was indisposed, but able for a certain amount of work. His legs were slightly oedematous, and he had occasional slight attacks of diarrhoea. On the morning after the vessel's arrival he was found dead. At the postmortem examination nothing was discovered beyond an oedematous condition of the legs and lungs, and this to but a slight degree.

The case of *abscess of the liver* and dysentery was that of an officer, 26 years of age, on board a vessel which had come from Saigon. While in Saigon two months before, he had suffered from fever and dysentery, which had continued in a greater or less degree ever since. He came under our observation three days before his death, and was treated with opium and ipecacuanha without benefit. Profuse hæmorrhage into the bowel setting in he died in three hours. At the postmortem examination there was found an abscess in the right lobe of the liver not previously diagnosed; the large intestine was distended with blood, its internal surface studded with the cicatrices of old ulcers, and numerous recent ulcers, especially in the ascending colon. The ulcers were small and very superficial, resembling simple erosions. The immediate source of the hæmorrhage could not be detected.

The *fractured skull* was caused by a fall down a wooden stair. The subject of it, a sailor on shore leave, was intoxicated at the time. He died in two hours.

Fractured spine.—This accident took place during a typhoon. The vessel shipped a heavy sea which, tearing a boat on deck from its fastenings, carried it, along with a sailor who was protecting himself under its lee, against the bulwarks. The spine was fractured in the lower part of the dorsal region. The man lived for 26 days after the accident.

Wound of the brachial artery.—This was the case of a Malay seaman, wounded with a knife during a squabble. The knife entered on the outside of the arm, crossed over in front of the humerus and cut the artery, without penetrating the integument on the inside. It being impossible to reach the bleeding vessel through the wound it was necessary to cut down on and ligature the brachial. The case did well.

Foreign body in the urethra.—A seaman, the subject of stricture for many years, was in the habit of passing for himself a bougie (No. 6) every few days. On the day he came under our observation he had passed the bougie, but on endeavouring to withdraw the instrument—a flexible one of French manufacture—it broke, leaving about 1 inch in the urethra between the stricture and the bladder. The stricture was seated so far back as to make it impossible to reach the broken part by means of any instrument introduced through the meatus, even supposing that the stricture would allow of such a proceeding. A small sized bougie having been introduced and passed through the stricture into the bladder without encountering the slightest obstacle, we concluded that the fragment must have slipped back into the bladder, and that the first step towards recovering it was to have the stricture thoroughly dilated so as to allow of the introduction

of a lithotrite. With this object in view a flexible catheter was introduced and tied in, the size of the catheter being increased as the state of the stricture would allow of it. After 7 days of this treatment a No. 10 catheter was got in, but the irritation was so great as to make it necessary to withdraw it for a time. Half an hour afterwards on the patient passing his water the portion of bougie, coated with phosphates, was expelled. It is difficult to conceive how an object of such a shape and size could find its way out of the bladder, were it once fairly inside. We believe that in this instance it had never been in the bladder, but that it had lodged in the dilated urethra behind the stricture.

In the following remarks we propose to describe briefly, but principally to illustrate, two forms of anæmia, which, as indirect causes of death in this part of China, are second to no other pathological condition, and as direct causes yield only to small-pox. Besides taking the first place as modifiers of the medical constitution, as predisposing causes and powerful influences in determining the progress and result of established disease, they have a very manifest and interesting share in the formation of the characteristics and habits of the people.

These forms of anæmia are best classified according to their causes, and these are—

- 1st. Antecedent disease.
- 2nd. Deficient and improper food.

1.—In considering the first of these we will confine our observations entirely to those forms of anæmia that are consequent on malarial disease. Other diseases, as the different forms of tubercle, cancer, &c., it is true, have here as elsewhere their characteristic cachexia or anæmia; but there is nothing so peculiar in its manifestations here as contrasted with other countries as to call for special notice; besides its influence is altogether insignificant when placed in comparison with the anæmia or cachexia of malarial disease.

In many particulars the malarial form resembles the anæmia consequent on deficient and improper food, but there is a tendency to local degenerations and deposits not observed in the latter, proving it to be more of the nature of a cachexia than of a simple anæmia. Yet the symptoms of the anæmia are always very prominent, and in fact are often, in recent cases especially, the only symptoms present. We will consider the various forms of the cachexia and its local complications in the following order:—

- a. Malarial anæmia uncomplicated by local disease.
- b. Malarial anæmia and anasarca.
- c. Malarial anæmia and enlargement of the spleen.
- d. Malarial anæmia and ulceration of the lower extremities.
- e. Malarial anæmia and disease of the kidneys and liver.
- f. Malarial anæmia and arrested or retarded development.
- g. Malarial anæmia and hæmorrhages.
- h. Malarial anæmia and dyspepsia.

Under each of these heads we have a few remarks and cases to offer, though we do not pretend to anything like a complete discussion of so extensive a subject.

a. *Malarial anæmia uncomplicated by local disease.*—Every attack of ague, or other form of malarial fever, is sure to be followed by more or less anæmia, according to the severity of the attack or the time it has been allowed to run on unchecked. But the duration of this anæmia and its intensity depend much on the treatment that has been adopted, the previous condition of the patient, and his food. It is very seldom indeed that we meet with a genuine case of well established ague in a European. Usually the first indications of approaching fever are treated with large doses of quinine, and we have only an aborted and imperfect disease to study. We seldom see the well pronounced rigor, pyrexia, and diaphoresis. The first feelings of lassitude, weariness, aching limbs and want of appetite, are immediately on their appearing referred to their proper cause, and the usual dose of quinine swallowed. The result of this is that a regular cold stage is seldom developed, but is represented by a feeling of creeping chilliness only, a sensation as if cold water were being poured down the spine, and a hyper-sensibility of the skin, especially of the

fingers and scalp. This gradually passes into an aborted hot stage, in which the skin is dry, harsh and hot, the limbs ache excessively, there is headache much aggravated by motion and light, a feeling of tenderness in the eyeballs, a fever tongue, depression of spirits and so on—but all these symptoms in a subdued degree. After a time they are relieved by a more or less copious diaphoresis. The stages however are not marked—the cold, the hot and the sweating must be searched for—the patient only feels ill, and supposes he has fever. Though this aborted ague seems trifling, in comparison with the violent disease we see in those who have not had the benefit of quinine, yet it is followed by a distinct anæmia; it hangs about the patient for weeks, and he is liable to it ever afterwards. For a week at least after all signs of fever have departed, the patient is quite unfit for his work; lassitude, swimming of the head on standing, reading or thinking, depression of spirits, want of appetite, weariness of the limbs, pallor of the skin, and other symptoms evidence the existence of a malarial anæmia. We think that the stage of convalescence after this quinine-aborted fever to which Europeans are liable is much longer and more distressing than in the general run of well developed and perfect agues. The native expects his ague, lies down to it, goes through the three stages with equanimity, and rises up on the conclusion of his fever, ready for his work as if nothing had happened. Observing this, we sometimes think that there is such a thing as giving quinine too soon. The physicians of last generation thought so. It seems to diffuse the disease, so to speak, as well as ultimately to cure it. We think its early use is the cause of a milder fever but a more tedious convalescence.

Many agues come and go without leaving any permanent bad effects. If the patient is in easy circumstances, can live well, and need work only a very little, ague, as a rule, passes lightly over. But if the victim is a poor man, obliged to starve when he cannot work, and work when he is not able—in such a case, anæmia or some other sequela is nearly certain to declare itself. The following short case illustrates this very common occurrence as well as mentions the principal features of the malarial form of anæmia:—

A field labourer, aged 48, in very poor circumstances, living on a diet entirely vegetable, has been liable since he was 9 years of age to an attack of ague every year in the 7th or 8th month. At first the attacks were mild, passing off after a few days, but for the last 8 years they have been of a much more severe character. Two years ago his face acquired the yellowish green colour characteristic of malarial anæmia, he became liable to swimings in the head, the eyes were dim, his ears rang, his bones felt wearied, and his legs became œdematous. His mucous membranes are very pale. He has no disease of the heart, lungs, kidneys or liver, and the spleen is little if at all enlarged.

The effect of emotions, such as fear, rage, &c., in preventing the development of an ague fit, is well known. That the ague of a Chinaman with his credulous and superstitious disposition, should be very amenable to such influences, is what from his nature we should anticipate. A curious illustration of something of this sort came under our notice some time ago. One morning very early a stranger entered a chapel belonging to the London Missionary Society and seated himself—evidently with a purpose—on one of the benches provided for the audience in the preaching hall. Supposing he came to enquire about the doctrines of Christianity, a native preacher proceeded to expound the scriptures to him, patiently lecturing all through the morning. Breakfast time came but still the apparent enquirer showed no disposition to move, and continued to listen to the instructions of the preacher. Dinner time, afternoon, supper time, all passed, but still the lecture was continued without a sign of an intention to move from the stranger. At last the preacher, supposing he was going to be saddled with a guest for the night, became impatient, and suspecting the honesty of the stranger, asked him what he came for. Many enquiries failed to elicit a satisfactory answer. The idea then struck him that his would-be guest—he had heard of such a thing before—had come to be under the protecting influence of the god of the chapel, that he might through his antagonism to the devil of ague, avoid an impending ague fit. And such really was the case. Nor was the invalid disappointed, his belief had really made him whole. On enquiry it turned out that this chapel enjoyed a great reputation, many resorting to it for this purpose.

The Chinese names for ague are legion—the proper name for the disease is Koa-jiet-pi, cold hot disease; other names are Ui-lieng, the creeping cold; Khit-chia-pi, the beggar's disease, so called because

the shivers of the disease resemble those of the ragged beggar; Ta-pai; Sam-ning-pi, sam-ning meaning dishevelled hair, applied to a devil; Liong-han, cold wound, &c. They suppose the disorder of the system during the fever arises from the workings and wrestlings of the fever-devil within. Many ague patients don't like to be asked if they have the Koa-jiet-pi; they think the mention of the word is sufficient to call the devil. I have heard of cases in which the simple mentioning of the name has induced an attack. They prefer to give it a bad name as beggar's disease, devil's disease, or the two day's one time disease, &c., believing that the devil won't care to answer or come when he gets a disrespectful appellation. So with the names of their children—such names as Filth, Cow's Dung, and so on are very common, the parents believing that evil spirits will not care to possess themselves of a thing with a name so worthless.

b. Malarial anæmia and anasarca.—That a considerable degree of anasarca may exist without disease of the kidneys or heart in the anæmic is illustrated by the following case. The cause of the dropsy is probably two-fold, a watery condition of the blood and debilitated heart.

A farmer, 51 years of age, applied at the native hospital for relief of extensive general anasarca. No disease of the kidneys, heart, liver or spleen could be detected. He was intensely anæmic and debilitated. He stated that since he was 10 years of age he had been liable to attacks of ague every summer. Each attack lasted for a month and left him much debilitated. When young he was much troubled with bleeding from the nose, but this had ceased since he was 30 years of age. Some time before his application at the hospital he had an attack of fever, which, though of shorter duration than usual, left him much debilitated, without appetite, and anasarcaous.

c. Malarial anæmia with enlargement of the spleen.—By far the most frequent sequela of malarial fever is this enlargement of the spleen. Apart from the fever which it accompanies and follows, it appears itself to be a direct cause of anæmia. By its mechanical interference with the circulation it produces stasis of blood in the legs and abdomen resulting in œdema, ulceration, hæmorrhoids, melæna, hæmaturia, ascites, dyspepsia, and probably disease of the kidneys. These complications are aggravated and get a character from the accompanying anæmia, which impresses on them a hæmorrhagic or indolent character. The following is a common history:—

A field labourer, at present 33 years of age, was subject to prolonged attacks of ague from his 27th to his 30th year. He was seldom free from them for more than two or three months at a time. His spleen then enlarged and became painful; the pain left, but the spleen went on increasing in size, and now it fills the abdomen. At 30 he hurt his foot; at the time the injury ulcerated but by-and-by healed. Last year the cicatrix broke down, and the ulcer is again open. He is much debilitated, and intensely anæmic.

Or again, a field labourer, aged 27, has been liable to ague every winter since he was 21 years of age, the spleen gradually enlarging. It now extends to the right of the umbilicus. He is thin, yellow, intensely anæmic, and the face and feet are œdematous.

We might detail hundreds of these cases—they are the principal features of the native hospital. Fortunately for the reputation of Western medicine they admit of very great improvement by judicious treatment.

We have met cases of enlarged spleen of malarial origin, in which there was no history of ague or other fever, but only of a life since childhood in a malarial district. Such cases are rare however.

Perhaps the most serious complication of enlarged spleen is the ascites it sometimes induces, as in the following case:—

A field labourer, aged 33, has had yearly attacks of ague since he was 7 or 8 years old. When he was only 15 his spleen was enlarged; the swelling in the abdomen always diminished during the summer, and increased in the winter, and was always made worse by the annual attacks of ague. Three months prior to his coming under observation, the secretion of urine diminished, his belly swelled, the veins on it becoming as large as the little finger. After a time the legs became dropsical, and burst, discharging large quantities of serous fluid. On admission to the hospital the abdomen was enormously distended by fluid, the legs were much swollen, and in places dark purple from effused or stagnant blood. The distended epigastric veins previously so prominent could not be seen, being probably obliterated by the pressure from within. Chest,

arms and face normal; no albumen in the urine. Neither quinine, diuretics nor purgatives gave relief, so after a few days trial of this treatment, no improvement taking place and his breathing becoming very much oppressed, he was tapped. On the day succeeding the operation he began to cough and expectorate a rusty sputum, delirium set in, and in 2 days more he died—without any sign of peritonitis. There may have been cirrhosis of the liver or tumour in this case, but we failed to detect either, and we consider the ascites due to the intense anæmia, and the mechanical obstruction to the abdominal circulation by pressure from the enlarged spleen. We find that when the ascites has proceeded thus far, very little is to be got from treatment; the well known combination of blue pill, squills and digitalis we have found to be the most efficient diuretic, but failing to get relief from that, quinine and purgatives—we tap.

d. Malarial anæmia and ulceration of the lower extremities.—Next to enlargement of the spleen, ulceration of the leg is the most frequent complication of malarial anæmia. Sometimes the ulceration is independent of splenic tumour, but very generally they are combined, the ulcer being partly the result of mechanical obstruction by the latter to the circulation. Sometimes a large sanguino-purulent ulcer forms on the skin, breaks and ulcerates, or a pustule is the commencement of the sore, or the immediate cause may be an injury, a scratch or a bruise. The low form of inflammation following ends in sloughing or ulcerative degeneration, the sore may spread very rapidly, and over a large surface, and not infrequently kills the patient before its progress is arrested. When the active ulceration or sloughing ceases, an indolent sore with prominent indurated edges is left, remaining stationary for years, or perhaps on the return of the ague extending its former limits. Sometimes it heals or partly heals. At other times the circulation to the healing sore becomes so interfered with by its own contracting cicatrix that the whole of the newly formed tissues break down, and in a few days the labour of months is destroyed, to be undertaken again, and again to be similarly rewarded. This degeneration of the cicatricial tissues appears to be a sort of gangrene; it first shows itself as a small dark brown and soft speck on the granulating surface; gradually it deepens and spreads, and nothing we have tried seems to have any influence in arresting it. It begins without apparent cause and ends as capriciously, sometimes puncturing a hole only in the centre of the new tissue, sometimes stripping off a layer of granulations, but oftener destroying the whole. When the gangrene is over, the healing process goes on as before, but a sore once attacked thus is very liable to relapse, and perhaps half a dozen attempts must be made before cicatrization is completed, if such a result is ever attained at all.

A field labourer, aged 27, has been liable to ague since boyhood. After a severe attack of a month's duration when he was 20 years old, a painful inflamed bulla formed on the right ankle, and burst, leaving an ulcer which rapidly spread to a great size. After a time the ulcer became indolent; he had enlarged spleen at the time. Last year the ulcer and spleen were cured at the hospital but returned some time after. He came again to the hospital; the sore was of trifling dimensions only, and after 10 or 12 days he was again discharged well, but it broke down again, got as big as a dollar, and he has returned for treatment.

A field labourer, aged 27, in poor circumstances, has had a yearly attack of ague since he was 12 years of age. Each attack caused enlargement of the spleen, which, though diminishing somewhat in the intervals of good health, never recovered its original size, but increased a little every year, and now extends well to the right of the umbilicus. Since 24 years of age, he has been troubled by a pustular eruption breaking out every summer on his leg. Last year a pustule formed on the outside of the left leg, burst, inflamed and ulcerated. Now the sore is as big as a dollar.

A field labourer, aged 42, has had quartan ague every year since boyhood. At 32 he injured his ankle; starting from the injury an ulcer formed spreading round the limb. The healing process proceeded very slowly until 4 years ago, when he came to the hospital, where cicatrization was completed. Last year he injured his leg again and ulcers formed on the back and front of it, producing by the irritation of their discharge an eczematous condition in the old cicatrix.

e. Malarial anæmia and disease of the kidneys or liver and other viscera.—The force of the cachexia may fall on the kidneys, as in the following cases:—

A man, aged 32, has been liable to very frequently recurring attacks of ague for the last 6 or 7 years. Two months before coming under observation dropsy began. When we saw him the œdema involved the

limbs, face, trunk, and genitals, and he had also some ascites. The spleen and heart were quite normal, but heat and nitric acid made his scanty urine quite solid from coagulated albumen.

A field labourer, aged 61, in very poor circumstances, had a quartan ague for 6 months when he was 26 years of age. Since, he has had a feverish attack every winter, and last year had a regular quartan for a month, changing its type to tertian after a time. Since then he has been much debilitated, and his legs have become œdematous. When seen he was excessively anæmic, his heart and spleen were normal, but his urine was loaded with albumen.

A lad, aged 21, of childish development; almost always has quotidian or tertian ague; says he has been more or less dropsical since childhood. No abdominal tumour; heart healthy; urine highly albuminous.

In this district we seldom find the liver affected permanently as a consequence of ague; during the attacks and for some time afterwards that viscus is probably congested, but we cannot say that any degeneration, fatty or amylaceous, is induced. We never get the chance of a postmortem examination to test this. Nor does there appear to be any special morbid influence expended on the heart, lungs or brain, though of course, they all must partake more or less in the general anæmia and debility.

f. Malarial anæmia and arrested or retarded development.—Sometimes if the anæmia declares itself in early life, before development is completed, this is arrested, and the individual attacked retains the characteristics of childhood till past middle life.

A field labourer, aged 34, living entirely on sweet potatoes, salted vegetables, and a very little rice, was attacked with ague when 16 years of age, before puberty had been established. The disease commenced as a quartan, but changed after a time to quotidian, leaving him very much debilitated. Since, he has had an ague every winter. Now, though 34 years of age, he is slight, stunted, and has quite a boy's figure and voice, his skin is of a dirty muddy yellow colour, very soft, velvety, and covered with a fine down like foetal lanugo, very long in places as the edge of the piana, and on the supra-scapular region. His mucous membranes are pale yellow; the jaws are very badly developed, the teeth crowded and irregular. He complains much of giddiness and debility.

In this case the brain had been retarded in some particulars in its development; his manner, comprehension and conversation were quite childish, although dashed with an amount of anxiety and abstraction not usual in youth, and evidently forced upon his character by the necessity of providing for himself as a man of his years. Usually, however, the development of the brain is more perfect in these cases than that of the rest of the body. The face and manners reflect this and express a larger amount of intelligence than we usually associate with a child's body, and of a different kind. Sometimes, a keen bright intelligent face belongs to the figure we would associate with a body 9 or 10 years of age. You ask its age and history and are told in a thin high-pitched child's voice that the mannikin before you is 25 or 30 years old, and has perhaps been married for the last 10 years. The grotesqueness of the figure is usually added to in such cases by a large protuberant belly filled with an enormous spleen, quite out of proportion to the miserable little legs supporting it, the skinny small distended chest, and the attenuated whip-like arms and fingers.

g. Malarial anæmia and hæmorrhages.—The subjects of malarial anæmia are very liable to hæmorrhages from the nose, gums, kidneys, &c., and from ulcers. Epistaxis is often a very prominent feature in certain cases of enlarged spleen. Ecchymoses of considerable extent may follow the bites of fleas or mosquitoes, and give a well-bitten anæmic a most peculiar appearance. Hæmorrhage from spongy gums occurs spontaneously, and the tendency to this should always be borne in mind when extracting teeth in such patients, especially if a big spleen is present. We have seen very dangerous bleeding from this cause. Indeed, in all similar cases, surgical operations must be undertaken with the utmost caution, and with every means of arresting hæmorrhage at hand. It is a good plan in this country, and one we invariably adopt, to prepare a patient for operation by a course of quinine or quinine and iron, and to keep up the use of the quinine after the operation. The tendency to sudden collapse from coagulation of fibrine in the heart and large bloodvessels, a tendency very marked in malarial anæmics, is another danger to be guarded against by the free use of quinine and iron.

h. Malarial anæmia and dyspepsia.—The stomach may be the organ attacked—the yearly recurring dyspepsia indicating the origin of the disease.

A field labourer, aged 45, applied at the native hospital for medicine to ward off his yearly attack of vomiting, then about due. He said that every year about the fourth month he has a severe attack of vomiting of yellowish sour fluid, lasting for about 20 days at a time, and leaving him very weak and debilitated. His history is, that at 29 he had an ague lasting through 16 months, and that since then he has been very liable to relapses. The stomach did not become affected until he was 36 years of age.

Generally, however, the dyspepsia is not of so severe a character; the fever acting only as a cause of general debility, and some other morbid influence determining the outbreak of the local affection—as in the following instance :—

A field labourer, aged 26, had a tertian ague for a month, 2 years ago, and since has had three relapses. Last year did pedlar's business, being out all day without food, and eating rather immoderately on his return home at night. He now suffers from anorexia and eructations of a tasteless watery fluid. Here the ague debilitated the stomach amongst other organs, and the irregularities of diet determined the localisation of disease in that organ.

In previous papers * we have given our views on the relation of the malarial cachexia to elephantiasis and elephantoid disease, and need not repeat them here; suffice it to say that that peculiar affection of the lymphatic system is, in our opinion, another manifestation of this hydra-headed disease.

2.—The anæmia from bad, imperfect, and insufficient food, has a class of symptoms as characteristic as those of malarial anæmia, though, unlike the latter, its symptoms are seldom complicated by local organic disease. Usually they are only those of functional derangement or incapacity; the red blood corpuscles are not formed in sufficient quantity, and the patient is pale; the imperfectly nourished heart cannot pump the watery blood to the brain, the eyes, and the ears, and he is giddy, cannot comprehend or think, has aberrations of sight and hearing; there is nothing in his blood wherewith to renew wasted muscular tissue, and he is easily fatigued, and feels wearied after slight exertion; the muscles of his stomach sympathise with the general exhaustion, there is no nitrogenous element in his blood and food wherewith to construct the highly nitrogenous gastric juices, and he is dyspeptic. As long as he keeps in the groove his life has run in since he was a child, he may live comfortably enough, and his anæmia not trouble him. There is just enough nourishment in his daily food to enable him to do this. He may flit over a mudbank with a creel in his hand, looking for shell-fish year after year, and the amount of sustenance derived from sweet potatoes and periwinkles may be sufficient to nourish the set of muscles and limited quantity of brains required for his work. He may till the same field in the same manner, carry the same sort of burden the same way and over the same road, work at the same trade, think and scheme in the same way, be a model fisherman, peasant, coolie, tradesman, or pedlar, year after year; but let him try anything new, let him be forced to unusual exertion in an unusual direction, and it is soon apparent that there is not sufficient nourishment in the system for the old and the new; it may be supplied at the expense of some particular part for a time, but very soon this breaks down, some organ or function gives way, and the man becomes an invalid. This want of adaptability and power to answer unwonted calls for exertion is strikingly characteristic of this form of anæmia.

The Chinese seem to have caught the idea of this below par condition being a disease, and have given it a name. They call it "ha sian." The term is very loosely applied, but it as nearly as possible corresponds in its meaning and application to our "anæmia." The feeling of aching, weariness, the rheumatic-like pains which attack the seat of an old bruise or blow, so common in the under-nourished, they have also named, sometimes calling these "siong," sometimes "ha sian hong." A diagnostic mark of the "ha sian" is to be found in the urine; if this, on standing, gets thick and clouded "ha sian" is present, and the treatment must be on "hot" principles. Unfortunately the vulgar mind attaches too much importance to a word, or a single isolated fact, and does not consider sufficiently the general condition and the grouping of many facts, so that

* *Customs Medical Reports* No. 3, p. 24, and No. 5, p. 14.

the future treatment of the patient depends entirely on this deposit in his urine, or on his disease being pronounced a "hot" or a "cold" one, "ha sian" or something else. The diagnosis often depends on an old woman's fancy, and the treatment is entirely in accordance with her verdict; so that in many instances, the result would have been better for the patient if native intelligence had not proceeded even thus far towards a classification of disease.

The diet of a well-to-do Chinaman is nutritious enough. Rice or other farinaceous food, animal food of various sorts, oils, fresh and salted vegetables, supply in abundance all the elements for healthy nutrition. But a vast proportion of the labouring classes and professed vegetarians (no small body) live exclusively on rice, fresh and salted vegetables and a small allowance of salt fish. Still lower in the scale, we find vast numbers to whom rice even is a great luxury, and whose diet consists of little more than sweet potatoes and salted vegetables, without any animal admixture whatever. Sometimes their poverty is so extreme that fresh sweet potatoes are beyond their means, and they are obliged to confine themselves to the dried potato, the very cheapest food, and in times of scarcity imported in large quantities. We have known wretches so poor as not to be able to buy firewood enough to cook, but obliged to content themselves with softening the dried potato with a little water, and seasoning it with salt borrowed from some charitable neighbour. We have seen a man who actually lived thus on 14 cash a day, his total earnings. This of course is an extreme case, but, undoubtedly, a large proportion of the population lives entirely on sweet potatoes and salted vegetables, a dietary quite insufficient to sustain a man under any great exertion, and barely sufficient, one would think, to keep him alive. It is from these, and similar forms of starvation, that we will draw examples of the anæmia arising from bad and imperfect diet.

The principal and distinctive marks of this form of anæmia, as contrasted with that of purely malarial origin, are as follows:—paleness of complexion, special dulness of intellect, tendency to dyspepsia of a certain kind, absence of local diseases, and liability to a break down on unusual exertion, in the former—in contrast with the yellow muddy complexion, the stunted bodily development, and the probable presence of some specific local disease in the malarial form.

What we mean by the absence of local complications, is not that this anæmia is not the cause more or less directly of disease in different organs, but that it is accompanied by no specific complication of this sort, as enlarged spleen in the anæmia from malaria. The implication of any organ is determined more by accident than by the relative power of the disease. The cornea ulcerates from non-nutrition, not from malnutrition; originally its circulation is of the feeblest character, and being thus feeble is often the first to be abolished when the general nutrition is lowered all over. A bruise on the skin sloughs into a huge sore, not because the effused blood, or effused lymph, possesses specific qualities causing the degeneration, but because in the feeble body molecular death is induced by a trifling amount of injury, or the feeble recuperative powers are not sufficient to restore circulation, and the part dies. We believe we have seen large sloughs form without previous injury on the legs of the intensely anæmic, because there was not nourishment sufficient in the economy for all parts, and one had to be sacrificed. If this terrible state of anæmia happens to be combined with malarial disease, especially such as causes mechanical obstruction to the circulation, as splenic tumour, frightful ulcerations and gangrenes are almost inevitably the result.

If one organ is liable to suffer more than the others it is the stomach, and the way in which it is affected is characteristic. In the herbivorous—as the poor man whose diet we have described must be—this organ requires to be particularly active, considering the enormous amount of work it has to do, the masses of matter it has to churn and digest; consequently, it stands in need itself of a great deal of nourishment, and when the supply of this is defective and bad, one can easily understand how it is the first to feel the want, and to break down in the anæmia. The following is a typical case:—

A hosier, aged 34, a very poor man, began about 7 months ago to feel ill, and eructate sour fluid. Now, every day about 3 hours after food, he has these eructations, 2 or 3 mouthfuls at a time, preceded by a feeling of discomfort in the stomach, which they relieve a little; the next meal gives complete relief. The discomfort does not amount to pain; his teeth are bad, tongue tremulous and has a very thin, pale fur on its centre.

In this case we did not ascertain or note the immediate cause. It is generally easily found. A very frequent one is over-exertion, if combined with prolonged fasting, as in the following :—

A boatman, aged 46, complains of pain radiating from his stomach, flatulence, and vomiting of sour fluid. At first the pain came on at night only; now its attacks occur during the day as well. He is relieved by vomiting 5 or 6 ounces of sour fluid, or by food. He attributes his illness to over-work and too little food. He lives very poorly; is always better when feeding on rice than on potatoes. In this case the acid fluid, the result of the fermentation of an undigested starch diet, was got rid of sometimes by vomiting, sometimes by dilution, or neutralisation when a fresh meal was taken into the stomach.

The effect of fatigue in bringing on these symptoms, and of rest in relieving them, is well illustrated in the next case. The morning meal could be digested with comfort, the stomach partly recovering itself by the rest it enjoyed with other parts of the body during the previous night; but as the day wore on work produced exhaustion, the force of the circulation was diverted more to the general muscular system, the stomach then began to do its work indifferently, and at night, the patient being quite tired, the dyspeptic distress reached its acme. And observe it was after the last meal of the day that the symptoms first showed themselves, and it is still only at this time that the vomiting occurs.

A coolie, aged 37, living almost entirely on rice and salted vegetables, complains of pain in the stomach, flatulence, and eructation of sour fluid. His troubles are worse after the evening meal, taken about 7 o'clock; 2 hours after it the belly begins to feel full and oppressed, and about midnight he vomits the sour fluid. The morning meal is followed by no discomfort; after the mid-day meal he has a little pain in the stomach, but it is only after the evening meal that this is severe and vomiting occurs. He has been ill for about 8 months; has vomited for the last 2 months only. His tongue is pale, and carries on the dorsum a slight fur. He attributes his illness to over-work and want of food. He is always much worse after eating sweet potatoes; a nutritious diet agrees with him best; the best he can afford is made of vermicelli cooked in sesamum oil.

Over-work and prolonged fasting were the causes assigned in the following case also :—

A field labourer, aged 43, living almost entirely on dried sweet potatoes, salted vegetables and a very little rice, complains of pain in his stomach coming on about 3 hours after every meal. The pain lasts for about an hour, and is then generally relieved by vomiting sour fluid; if this does not occur the pain continues longer. He has been ill for about 10 months. His first symptom was a profuse secretion of saliva, which still continues, especially after and during exertion. About 2 months after the dyspepsia began he coughed up a little blood. He says that he eats about three bowlfuls at a meal, that he must eat it very slowly and keep moving about, otherwise he has much distress immediately after food. He is very anæmic; epigastrium slightly tender on pressure; the middle of the tongue is smooth, red and glazed-looking, as if denuded of epithelium, and on either side there is a pale, thin fur. In this case, the benefit derived from moving about during digestion indicated the muscular atony of the stomach, which it counteracted to some extent.

We might detail many such cases; they are specimens of the form of dyspepsia most frequently met with at the native hospital; those we have given are perhaps sufficient to illustrate the causes, symptoms and nature of the disease.

The cause is something which tends to produce exhaustion in an anæmic living on a diet entirely farinaceous, or nearly so; the symptoms are discomfort or pain in the stomach coming on from one to three hours after a meal, accompanied usually by flatulence, and relieved by vomiting a sour fluid or by the next meal; the nature of the complaint is the fermentation of starch in a stomach deficient in the usual muscular activity and digesting secretions.

We may remark here, that the treatment we have found most efficacious in such cases, consists in the administration of an acid and a bitter half an hour before meals, an alkali just before the time when pain is expected, say 2 hours after food, and the substitution of animal food for the salted vegetables in the diet. If there are symptoms of gastritis or gastric irritability, as tenderness on pressure over the stomach, pain

immediately after food, vomiting of food, and a raw indented tongue, a blister on the epigastrium combined with bismuth, morphia and an alkali will relieve the symptoms, and enable the stomach to retain the food necessary for the renewal of its tissues, and the manufacture of proper secretions. These may be combined with a bitter, but in such a case an acid is apt to aggravate the pain if prescribed too soon. The rationale of this acid-alkaline treatment of dyspepsia appears to be that the acid given before the food hurries the first stage of the digestive process, reduces the food sufficiently for its expulsion into the duodenum before the muscular activity of the stomach is exhausted, and the starch has had time to ferment; the alkali, on the same principle, would assist the secretions of the duodenum, pancreas and liver, and the second stage of digestion.

The stomach is not the only organ that suffers in anæmia. We have selected it as an illustration on account of the frequency with which its functions are affected, and because this dyspepsia has offered to us a more tangible subject for study than any other of the many effects of anæmia. Yet we might instance others. It is singular how frequently the pupils of the different mission establishments are sent to us for treatment or an opinion, all of them suffering from much the same style of illness. Taken young from the country, selected on account of their superior intelligence and physique, they at first appear eminently qualified for the life of study and originality before them. Yet in a few months many of them pine, languish, "sicken of a vague disease," and are obliged to relinquish their new life and studies, from sheer exhaustion of brain and energy. Many become dyspeptic or phthisical, most suffer from anæmia, and a good number of them after having put their hands to the plough are obliged to turn back to some extent, exhausted by the novelty of their work, unable from their anæmia to adapt themselves to new conditions and habits of life.

Herein we think is indicated one key to a part at least of the Chinese national character. The strong conservative propensities, the superstitious reverence for precedent, the patience under oppression, the unprogressive character of their arts and sciences, these we think are but expressions of incapacity for change, for adaptation, for originality, not the deliberate elections of philosophic experience. This incapacity we hold to be the result in great measure of the almost universal defective nutrition that cannot permit a change.

The two forms of anæmia we have attempted to describe and illustrate, are the most characteristic and important pathological features of the Chinese constitution. These, singly or combined, affect the natural history of every disease, acute or chronic, they regulate the treatment and often determine the result, they form the medical constitution of the country. He who would treat disease successfully in China must never ignore them. There is hardly a case in which quinine, iron and animal food is not at some part of its progress, a necessary part of the treatment.

But apart from its strictly medical bearings, there is one phase of this subject which has not, in our opinion, received the attention it deserves, and on which we would offer a few remarks, more in the way of suggestion than as anything like a complete discussion of the subject.

The principal influences directing the development of the permanent characters of any race of men are undoubtedly the climate and physical features of the country it inhabits, the food it is nourished by, and the diseases that destroy or impair it. These are the great agents of natural selection; the fittest to survive under these operations propagate the race and constitute its types. This is but an extension of the Darwinian hypothesis to the formation of the varieties of man, and to a certain extent has been explained by BUCKLE in his *History of Civilization*. We believe that the food and diseases of a race, while themselves depending on the physical characters of the country, are far more direct and powerful influences than the contemplation of natural phenomena, which stands so high in BUCKLE'S estimation. For example, the province of Fukien is unable to supply its inhabitants with an animal diet; rice and sweet potatoes or similar farinaceous stuffs are the only foods, and the race must adapt itself to the digestion and assimilation of them. This has been accomplished, and that wonderful adaptability which man along with some of the other animals possesses, has enabled him to effect the change from omnivorous to herbivorous, and to survive the process, and even develop into a vigorous race. Before this has been accomplished, a long and unintermitting process

of selection and rejection has been gone through, illustrations of certain of the steps of which we are enabled still to witness in studying the diseases of the people—the brands of rejection. A very marked one is the peculiar form of dyspepsia we have just considered. It is manifest that those so affected are from debility and other causes likely to succumb in the struggle for existence to those endowed with more vigorous and suitable digestive apparatus. Thus they are rejected, and the race is propagated in preference from the better specimens of vegetable-eaters.

Dr. SOMERVILLE has pointed out, and every one who has had much experience on the subject must confirm his statements, that a very large proportion of European mothers are unable to suckle their children in China. Now, in a natural and primitive state of society, in which artificial means of feeding are unknown, the children of such mothers must inevitably perish; only such children as could be reared by their mothers could survive, and from them the race would be continued—a race, the women of which would have the power of suckling their children. The European constitution must be altered in this respect before it could flourish here.

Again, the influence of endemic disease is no less manifest than that of the quality and supply of food, and the existence of a process of selection thereby cannot be doubted. The direction in which this operates can also be detected in some instances. Malaria, undoubtedly, is a great enemy to the rapid settlement of such a country as this, and the process of selection by means of it, must have been a long and deadly one, until the present race with its comparative immunity from malarial disease could be formed. We can easily understand the process, for it still goes on and we can see it; the anæmia, the enlarged spleen, the retarded development, the sexual incompetence and the long train of malarial sequelæ, stamp those whose pathological constitutions should and do tend to end with themselves, and not be propagated to sickly children with inherited susceptibilities.

This hypothesis of selection partly explains certain facts in the natural history of disease, which, without its adoption, seem unmeaning and capricious. For instance, the comparative immunity of many of the African races from fevers, which under circumstances of similar exposure would be fatal to other races; the same peculiarity in Chinese, Malays and Hindoos, though in a less marked degree; the peculiar virulence of such diseases as small-pox, syphilis, cholera, &c., when attacking a people for the first time; the decay of deadly epidemics and extinction of certain diseases. The African, constantly living in a malarious country, were he liable to continual attacks of fever and its consequences, would be weak, helpless and unfitted to contend with the powers of nature and his fellow men; such an one must of necessity die sooner and have a smaller chance of propagating children than his less susceptible neighbours. Now, as constitutional susceptibilities and peculiarities tend to continue themselves, there is a continual disposition to the extinction of the unfitted and the preservation of the suitable, and in course of generations a national constitution is acquired incapable of being affected by the malarial poison.

The more general cultivation of the country, and consequent diminished prevalence and intensity of malaria, has in such countries as India and China permitted a certain amount of relaxation in the stringency of exclusion, and accordingly, in these countries we find a population slightly susceptible, though not nearly so much so as the exotic European not bred to resist such influences.

Small-pox and syphilis, when attacking races for the first time, are characterised by a virulence and deadliness seldom met with in their future history. Those liable to the worst forms are killed off, and only those whose systems can survive, or can acquire a less deadly form, remain to propagate the next generation with its constitution of greater strength or less susceptibility. An extension of the same principle will help to explain the decay of epidemics, or the complete extinction of some diseases.

The frequent failures of the attempts to repopulate the Campagna are excellent illustrations of the principle we endeavour to establish. We know that in ancient times this was a tract of country highly cultivated, healthy and populous. During the troubled centuries of Italian history the towns decayed, cultivation was abandoned, the country became depopulated, and now the climate is deadly. The soil is rich, the situation convenient, the country is quiet, and in these peaceful times every inducement exists to

repopulation ; but every attempt at tillage is fatal to most who make it, and it will only be when the few who survive the malignant influences of the waste, have propagated a hardier and more suitable race inheriting their own constitutions and insusceptibilities that a fit population will be formed for the Campagna. So in a less strongly marked manner in America, Australia and all Anglo-Saxon colonies—the European race must be modified, until a race suited to its new home has been formed. Influences other than trade, politics, religion and war contribute to the production of the characteristic peculiarities of new peoples.

While recognising the fact that there is a natural tendency to the development of improved constitutions and disease-resisting qualities, we must remember that the acquisition of a high degree of civilization, humanity and science, tends to the fostering and propagation of forms less able to resist disease, on account of its endeavouring to preserve, and its success in fostering the weak and susceptible. This is a drawback to civilization. The savage races exist by adapting themselves to circumstances, the more highly civilized races by adapting circumstances to themselves.

There is a practical side to the questions we have thus briefly discussed, to which, in conclusion, we will allude. It is a common observation with some when discussing the unhealthiness of these climates, that their evil reputation is not deserved, that they are as healthy as our native lands, and that we should find them so did we only assimilate our diet and habits to those of the natives. Providence, they say, knows what is best for them in these circumstances, and therefore we should reverently follow the thriving examples around us, live on rice and salt fish, eschew all our luxuries and turn native in our habits. There is a sophistry about this which deceives some, and others like it because they belong to a morbid class who have a natural tendency to do anything entailing a self-denial, who think that whatever is pleasant must be bad and whatever is unpleasant and involving self-denial must be good. But such sophists never think of the generations that have passed, before the native's suitability to his climate, diet and other circumstances, has been acquired, of the millions who must have died in the process of adaptation, of the constant selection and elimination by nature ; they do not think that our own constitutions have been formed by a similar process, long and elaborate ; they try to effect the changes wrought by centuries in the fraction of a generation and at once. Fortunately few have strength of mind sufficient to carry out such advice. Appetites bred through many generations become instincts, and an Englishman must have his beef. We should endeavour to make the climate suit us, not us the climate. We ought always to remember we are exotics here, and that we should surely sicken and die if we did not in one way or another try to reproduce the circumstances of the lands in which our constitutions were bred. The advice that tells us to eat rice and practice all sorts of self-denial, should, if it followed up the principle it is founded on, tell us to eschew sun hats and umbrellas and to expose our shaved heads and naked bodies to the hardening and acclimatising rays of the midday sun, live in stuffy hovels, exclude ventilation and sleep on the ground floor. The true advice is to make China as like Europe as we can, and by cultivating temperance, remain vigorous to resist malign influences when they come.

E.—Dr. A. G. REID'S Report on the Health of Hankow for the half year ended
30th September, 1873.

INSOLATION is of rare occurrence among foreigners at this port, as might be expected in a community leading an easy in-door life. Among the native labouring class who go through severe physical exertion and often with their heads unprotected from the sun, it is also uncommon, although I am told that in certain years the reverse of this has been the case. In the past summer two instances were met with on board H. B. M. S. *Ringdove*, and seen in consultation with Dr. GORHAM. Neither of the men had been exposed to the direct rays of the sun; and in one the symptoms commenced towards midnight, and in the other shortly after daybreak of the following day. The atmospheric conditions noted were at 6 A.M., Max. 85°, Min. 84°, Wet bulb 81°; Bar. 29.6; Ozone by NEGRETTI and ZAMBRA'S scale 3; and at 4 P.M., Max. 96°, Min. 85°, Wet bulb 83°. The temperature of the soil at a depth of 3 feet, taken at the same hours, indicated in both cases 82°, and that of the river 88° at 8 A.M. and 4 P.M. The vacuum solar thermometer exposed to the full rays of the sun shewed a maximum of 161° up to 12 o'clock and of 158° up to 4 P.M. On the following morning the readings at 9 A.M. were respectively Bar. 29.6; Max. 85°, Min. 85°, Wet bulb 84°; Ozone 5; and at 4 P.M., Bar. 29.5; Max. 98°, Min. 85°, Wet bulb, 83°. Vacuum solar at 12 o'clock, 166°, and at 4 P.M. 159°. The temperature of the soil and water was the same as on the previous day.

In one of the patients the stupor was not complete, he could be roused, although with difficulty, but the skin was dry and burning hot, and the temperature in axilla 108.3°. Under the free use of the cold douche, applied through the ship's pump, the symptoms subsided, and at the expiry of two hours the temperature had fallen to 99°, and the stupor had disappeared. In the other case, the comatose symptoms were fully developed, the patient had gone to bed complaining of feverish symptoms and frequency of micturition, and at 5 A.M. was found in a state of profound insensibility, stertorous breathing, pupils semi-contracted, eyes pinky, with impossibility of swallowing, and tumultuous action of the heart. The pulse was 160, respiration 50 and temperature in axilla 108.3°. The cold douche was freely used with ice to the head, a purgative enema, and blister over the nape of the neck; but after this treatment had been continued for an hour, the patient lay as motionless and insensible as ever, and the pulse and temperature maintained their high range. The pump used for washing the deck was now put in action, and the stream directed along the spine, back of neck and head with considerable force, and with occasional intermissions, during which fans were vigorously used. After the lapse of about a quarter of an hour, each application of the stream of water was seen to produce deep inspirations and efforts at vomiting; the pulse also began to fall, and the intervals in using the pump were gradually increased, till at the end of three hours it was entirely dispensed with, as the temperature had by that time fallen to 102°, and the pulse to 112. The power of swallowing was not recovered till late in the evening, and insensibility continued until the afternoon of the following day. The skin continued dry and unspiring during two days, necessitating frequent cold sponging and the use of the punkah. Feverish symptoms increased towards night, and pulmonary congestion persisted for a week, but then disappeared leaving the patient extremely feeble in body and also mentally weak.

The high temperature, 108.3°, in both cases is worthy of note, as is likewise its reduction under the use of the cold douche, and a corresponding improvement in the cerebral symptoms. The action of superheated blood on the brain and medulla is witnessed in several pyretic states, as for example in some instances of acute rheumatism, in which Dr. Fox has shown that they rapidly subside under the employment of cold. (*The Treatment of Hyperpyrexia*, by Dr. W. Fox.) Authorities are not agreed respecting the etiology of insolation, some ascribing the phenomena to a diminished action of the emunctories during intense heat, and the poisonous effect of the retained excreta on the nervous system, while others refer the first step of

the disorder to an enfeeblement of the sympathetic, leading to vaso-motor paresis (C. H. JONES on *Functional Disorders of the Nervous System*, page 227.) The two cases described cannot be explained on the former supposition, as the symptoms disappeared in the one and greatly improved in the other, previous to the restoration of the functions of the skin, and under the use of means employed to abstract heat and rouse the nervous system. By keeping the body cool, progress towards recovery went on in the second case, notwithstanding that the skin remained inactive for two days. The night in which the attacks occurred, August 7th, was one of the sultriest of the summer, the air full of moisture, and the test papers indicated a low range in the ozone scale. In connexion with the subject of insolation, it may be mentioned that a register was kept throughout the summer of the temperature of four healthy natives, two of whom were employed as chair bearers and two as assistants in the hospital. The entries were made daily at 3 P.M., when the temperature of the body is rising towards its maximum, and at which hour the temperature in the shade usually stood over 90° and sometimes reached 98°, while that of the black bulb exposed to the sun ranged between 160° and 175°. In the instances of the in-door assistants the temperature varied little from day to day in one of them during a period of 51 days. It stood between 98° and 98.6° on 47 days; on three days it attained 99.2°, and on one occasion fell to 97°. In the other it also marked the average heat of the body during 41 days; it twice rose to 99.4°, and eight times fell to 97°. The chair bearers had a considerable amount of physical exercise to go through during the early part of the day, but usually had been resting for two hours previous to the hour at which their temperature was taken. In one of them the heat of the body was twice 99.4°, thirty times from 98° to 98.6°, twenty-nine times between 97° and 98°, and once 96°. In the other it was twice 99°, fifteen times between 98° and 98.6°, twenty-four times between 97° and 98°, and eight times it fell to 96°. It is curious to notice on the charts the difference in the range of daily temperature in the cases of those engaged in in-door and out-door occupations. The dietary of both was alike, and consisted of rice, vegetables and a little pork. The temperature was ascertained about an hour before the afternoon meal.

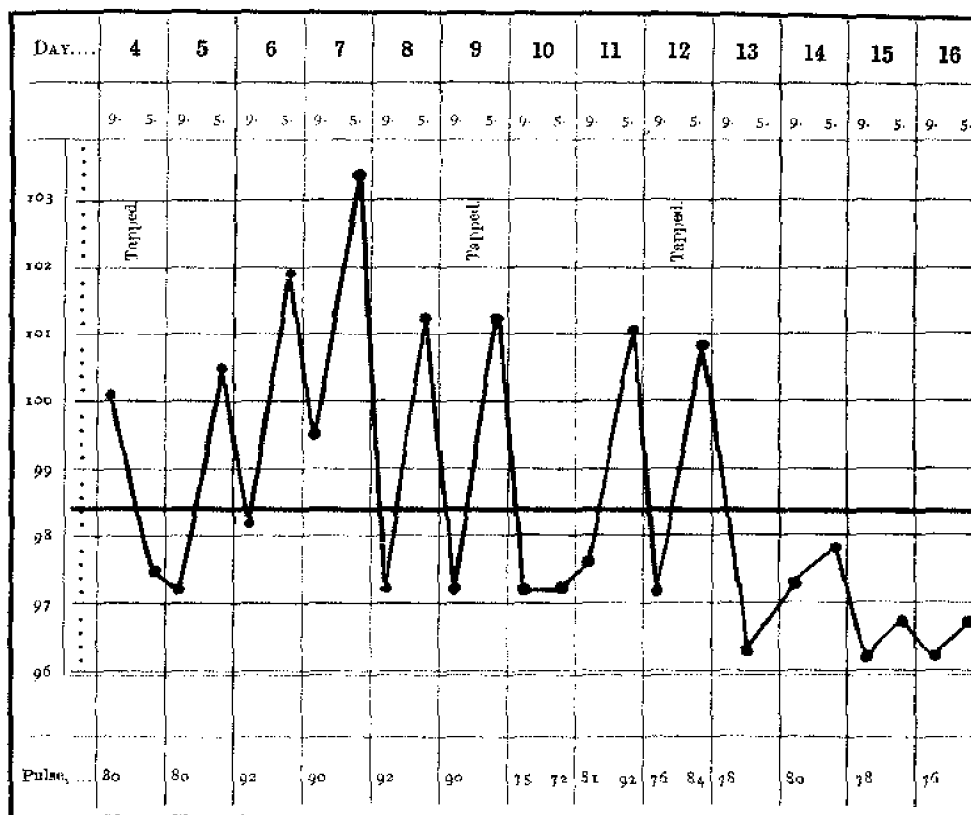
Three interesting cases of hepatic disease came under observation during the past 6 months. One of them had suffered for some months from occasional liver pains, but they were not of any intensity, or accompanied by general symptoms sufficient to excite his medical attendant's alarm. On the day previous to the onset of more marked symptoms, he was meditating a pleasure trip to another port. After an illness of 10 days he expired, and on postmortem examination multiple abscesses were found in the liver, several of them being of considerable size. Unfortunately the diagnosis was not arrived at in time to attempt treatment; and the case had also become complicated by gangrene, which followed the repetition of a large blister, and spread over the whole of the right side, from the line of the nipple to that of the umbilicus.

The second case was that of a native boatman who came into the London Mission Hospital with the following history:—Patient a very emaciated man aged 42; had 5 months previously suffered from acute dysentery which improved after a month, but left a tendency to loose stools, he still having two or three motions daily. After he had so far recovered from the dysentery, he began to suffer from pains in the hepatic region, and feverish symptoms. These increased in intensity about a month ago and he then first noticed a fulness along the lower border of the 8th and 9th costal cartilages, which swelling had increased rapidly within the last fortnight. Patient had been a man of intemperate habits. The liver dulness extended from lower border of 4th rib to within an inch of umbilicus, and there was a marked prominence under and below the cartilages of 8th, 9th and 10th ribs. The case looked an extremely unfavourable one for recovery, but as the man was rapidly sinking I at once proceeded to empty the abscess by DIEULAFOY'S aspirator, using needle No. 2. The needle was passed under the skin, the exhausting syringe put in action, and then when the needle was further pushed to the depth of about three quarters of an inch, the matter was seen to flow along the tube. Forty ounces of pus were withdrawn to the great relief of the patient, and the chest was then enveloped in sheets of cotton wool, the slight opening left by the puncture having been first sealed up with collodion. Muriate of ammonia was given in half drachm doses four times a day, and both strength and appetite improved, but the swelling gradually reappeared from under the ribs, and it became necessary to

again resort to the aspirator. On the second occasion 20 ounces of a thin brownish-coloured pus were removed, and as the feverish symptoms still continued, the long No. 2 needle was passed into the liver, three days subsequent to the last operation. On the last occasion it was inserted up to the hilt, and only 3 ounces of pus were found which flowed into the syringe, and were followed by about a couple of ounces of blood. After this the fever completely disappeared, and the general symptoms greatly improved. The patient being very anxious to return to his home, as his wife could not conveniently remain longer with him in hospital, I yielded to his wishes, there being no appearance of any further collection of matter or return of the hectic symptoms. He left 20 days after admission.

The temperature is given in the chart.

ABSCESS OF LIVER.



The third case presented symptoms of abscess, but they spontaneously disappeared under the use of large doses of muriate of ammonia. The patient, a foreigner, was attacked with vomiting, fever, purging, and acute pain in the right hypochondrium, the evening temperature 104°, pulse 120 and liver dulness 6 inches in line of nipple. After two days the pain diminished, but the fever continued with evening exacerbations and sweats towards morning, and was also attended with severe pain in the right shoulder. After the lapse of a week the suffering became localised to the region of the 8th and 9th intercostal spaces and was more a sensation of tension than of acute pain. In the same region the intercostal spaces were pushed out and raised above the level of the ribs. This swelling continued for 5 days and then began to subside. At the time that the prominence appeared, the hepatic dulness measured 8 inches in line of nipple and 7 in line of axilla, the morning temperature 100.4°, evening 101.4°, pulse 84 and 88, profuse morning

succeeded an attack of acute dysentery, it is probable that suppuration began in more than one focus. On the last occasion on which the side was punctured, the long No. 2 needle was passed the full length, as abscess deeply seated was suspected from the continuance of the hectic fever. Although only 3 ounces of pus were found and withdrawn along with about 2 ounces of blood, the fever never again returned while the patient remained in hospital.

In the third case I was almost confident of the presence of abscess from the occurrence of the fulness between the ribs, succeeding acute liver symptoms and accompanied by fever, morning sweats and pain in the right shoulder along with hepatic enlargement. I hesitated about using the aspirator, because if the swelling arose from matter underneath, there was no immediate urgency for its withdrawal, seeing that it was advancing towards the surface of the body. If there had been either severe local pain in the swelling, or if the general liver pain had continued, the instrument would have been used for the purpose of relieving suffering even if matter had not been discovered. Prof. MACLEAN'S experience of local bleeding by the aspirator in hepatic affections has been recently published in the *Lancet*, and proves that it is equally safe and satisfactory. Regarding the possibility of matter forming in the liver and undergoing absorption, Indian authorities believe that this occasionally occurs, and FRENCH'S coincides with this explanation of some of the cicatrices found in livers which have undergone loss of substance (*Sydenham Society's Translation*, vol. ii, p. 138.)

During the past few months a register was kept of the social condition and of some of the habits of the people in this neighbourhood. Adult males not suffering from severe or chronic ailments incapacitating them for work were selected, and their answers to the interrogations sifted as carefully as possible. I think that the replies were correctly given, as the questions were put in the course of enquiries into the nature of the ailment for which treatment was sought, and, as a rule, under such circumstances the patient would feel it to be his interest to speak the truth. The applicants at the Dispensary generally came from the class of small shopkeepers, tradesmen, farmers and labourers, and often stated that they were exceedingly poor. The results of the enquiry so far as it has been made is as follows:—Of 710 adults, 253 were unmarried and 457 married, but of the latter 85 were widowers. The 457 married had produced 1,309 children and of these 620 had died and 689 were living. Among the 710 there were 104 who smoked opium, 409 drank wine as a rule, and 525 smoked tobacco. As it is sometimes supposed that bachelors are unknown among the adult Chinese, a list is given of the ages of the 710 persons alluded to:—

	Total.	Married.		Total.	Married.
Age, 20 to 25	107	40	Age, 50 to 55	32	27
„ 25 „ 30	140	71	„ 55 „ 60	41	39
„ 30 „ 35	102	65	„ 60 „ 65	21	14
„ 35 „ 40	97	74	„ 65 „ 70	5	4
„ 40 „ 45	75	58	„ 70 „ 75	5	3
„ 45 „ 50	83	60	„ 75 „ 80	2	2

F.—Dr. RENNIE'S Report on the Health of Takow and Taiwan-fu for the half
year ended 30th September, 1873.

During the six months under observation there was one death among the European community. An extremely delicate child suffering from acute dysentery complicated with intermittent fever died after 10 days illness.

Excellent health prevailed among the rest of the community, only four cases of zymotic disease occurring. Of these one was a rather persistent case of intermittent fever. The patient had had several severe attacks on former occasions, while residing at other ports in China. On this occasion the site of his house excited an attack; as during the south-west monsoon it is almost entirely surrounded by water at flood tide. I have also noticed that a much greater number of cases of malarial disease have occurred among the servants of the house referred to than among the servants belonging to any other house here.

The remaining instances of zymotic origin were cases of diarrhœa, two of which were very mild, while the third assumed the congestive form.

The only other diseases observed were three cases of inflammation of the external auditory meatus caused by sleeping with the ear exposed to a draught.

Among the shipping there was one death. A Norwegian seaman, said to be suffering from delirium tremens, jumped overboard while his ship was entering the harbour. Three cases of diarrhœa and one of ague occurred in port.

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.	AVERAGE.	DAYS OF RAIN.
April,.....	82°	63°	75.6°	8
May,.....	85°	72°	80.2°	11
June,.....	87°	74°	81.5°	19
July,.....	88°	79°	83.2°	13
August,.....	89°	79°	84.3°	12
September,.....	89°	74°	82.2°	16

The Rainfall of the past season has been exceedingly large and the temperature on the whole has been somewhat lower than usual.

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

A.—GENERAL DISEASES:—

Remittent and Intermittent Fever,

	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
Intermittent—							
Quotidian,.....	10	11	35	40	20	15	131
Tertian,.....	8	12	10	9	6	5	50
Quartan,.....	12	10	6	13	23	12	76
Irregular,.....	...	1	1	1	...	...	3
Remittent,.....	2	2	...	2	1	...	7
Total,.....	32	36	52	65	50	32	267

Erysipelas,	2 cases.	Gonorrhœal Ophthalmia,	8 cases.
B.—CONSTITUTIONAL DISEASES.		Chronic Ophthalmia,	18 "
Acute Rheumatism,	9 "	Pterygium,	9 "
Gonorrhœal Rheumatism,	6 "	Keratitis,	3 "
Chronic Rheumatism,	39 "	Onyx,	6 "
Muscular Rheumatism,	3 "	Ulcer of Cornea,	20 "
Syphilis:—		Opacity of Cornea,	28 "
<i>a.</i> Primary,	23 "	Staphyloma,	6 "
<i>b.</i> Secondary,	55 "	Iritis,	7 "
<i>c.</i> Hereditary,	6 "	Amaurosis,	3 "
Cancer,	2 "	Impaired Vision,	7 "
Lupus,	3 "	Cataract,	11 "
True Leprosy,	3 "	Glaucoma,	2 "
Scrofula,	3 "	Inflammation of Lachrymal sac,	3 "
Diabetes Mellitus,	1 "	Entropium,	14 "
Anæmia,	68 "	Trichiasis,	17 "
General Dropsy,	3 "	<i>Diseases of the Ear:—</i>	
C.—LOCAL DISEASES.		Otorrhœa,	4 "
<i>Diseases of Nervous System:—</i>		<i>Diseases of the Nose:—</i>	
Paralysis:—		Polypus,	3 "
Hemiplegia,	4 "	<i>Diseases of the Circulatory System:—</i>	
Paraplegia,	2 "	Dropsy,	5 "
Locomotor Ataxy,	1 "	Valve Disease,	6 "
Facial Paralysis,	1 "	Varicose Veins,	5 "
Hysteria,	5 "	<i>Diseases of the Respiratory System:—</i>	
Neuralgia,	3 "	Laryngitis, Acute,	2 "
Mania,	1 "	Bronchitis, "	8 "
<i>Diseases of the Eye:—</i>		" Chronic,	16 "
Ophthalmia,	27 "	Phthisis, Chronic,	20 "
Purulent Ophthalmia,	7 "		

Diseases of the Digestive System:—

Cancerum Oris,	1 case.
Cariou Teeth,	21 "
Gum-boil,	4 "
Dyspepsia,	27 "
Dysentery,	8 "
Melæna,	8 "
Hernia,	4 "
Parasitic Disease,	10 "
Diarrhœa,	14 "
Constipation,	3 "
Fistula in Ano,	4 "
Hæmorrhoids,	8 "
Stricture of Rectum,	1 "
Ague Cake,	41 "
Ascites,	4 "
Tabes Mesenterica,	6 "

Diseases of the Urinary System:—

Bright's Disease,	5 "
Hæmaturia,	3 "
Gonorrhœa,	8 "
Phimosis,	2 "
Stricture of the Urethra,	4 "
Urinary Fistula,	3 "

Diseases of the Generative Organs:—Male.

Spermatorrhœa,	2 "
Sloughing of the Scrotum,	1 "

Diseases of the Generative Organs:—Female.

Leucorrhœa,	4 "
Prolapsus Uteri,	2 "
Amenorrhœa,	4 "

Diseases of the Organs of Locomotion:—

Periostitis,	3 "
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Caries,	2 cases.
Necrosis,	4 "
Chronic Synovitis,	3 "
Muscular Abscesses,	4 "

Diseases of the Cutaneous System:—

Erythema,	4 "
Psoriasis,	4 "
Pemphigus,	2 "
Eczema,	4 "
Acne,	3 "
Leucoderma,	2 "
Ulcer,	48 "
Boil,	6 "
Whitlow,	7 "
Fatty Tumour,	3 "
Condyloma,	4 "
Cheloid,	3 "

Parasitic Diseases of the Skin:—

Tinea Tonsurans,	25 "
„ Favosa,	4 "
Scabies,	44 "

Poisons:—

Opium,	3 "
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Injuries:—

Burns,	5 "
Concussion of the Brain,	2 "
Contusions of the Chest,	17 "
Gunshot Injury of Eye,	1 "
Contused Hand,	1 "
Incised Wounds,	9 "
Injuries of Vessels,	6 "

Among Natives the principal causes of death were small-pox and malarious fevers. Small-pox commenced about the beginning of March and was very prevalent during the summer months. Natives state that the past epidemic came much earlier than usual and was of a more fatal character than any epidemics they had any recollection of. An immense number of the younger natives of the towns and country of South Formosa were carried off. Only 7 cases came under my notice, and of these 5 died, all being of the confluent variety.

Among those treated at the Chinese Hospital were six savages from the East Coast of Formosa. One who called himself a chief had been here about three years ago when he was treated for syphilis. Another, said to be a chief's daughter, had a large myeloid tumour on her foot. Four toes and the greater part of the fifth were involved in the mass. CHOPART'S operation was performed and a good recovery followed. The others were all thoroughly saturated with syphilis, which they said was a disease of very frequent occurrence in their country.

G.—Dr. F. WONG'S Memorandum on Leprosy.*

THE following notes on Leprosy were written a few months ago in reply to questions on the subject in a pamphlet prepared by Dr. Tilbury Fox and Dr. T. FARQUHAR, entitled *Scheme for Obtaining a Better Knowledge of the Endemic Skin Diseases of India*. These notes make no attempt at a systematic treatment of the subject, but are simply answers to the various questions bearing on the causes of the disease.

Leprosy in Canton and the neighbouring districts.—Leprosy is by far the most serious disease of the skin that can engage our attention, but investigation into the causes of its production and propagation is attended with the greatest difficulty. I have made many inquiries of intelligent lepers, and native physicians who have devoted years to the cure of leprosy, but I regret to say that very little definite and reliable information on the subject can be gathered from them. The disease is very common in this part of China, but its treatment is almost entirely in the hands of men who have no scientific knowledge of the subject, and whose only object is the acquisition of money.

Into the symptoms and course of the disease there is no necessity for entering, and I shall direct my observations to the elucidation of those points indicated in the "scheme," and calculated to throw light on the origin and propagation of the disease, such as:—

- 1.—The climatic condition of the country in which the disease is prevalent;
- 2.—The connexion of the disease with malaria;
- 3.—The diet of the people;
- 4.—The existing condition of the disease;
- 5.—Its mode of propagation by intermarriage, hereditary influence, cohabitation, inoculation and vaccination.

The city of Canton is situated in latitude 23° 7' N. and longitude 113° 15' E., on the northern bank of the Canton river, about 70 miles from its mouth. To the north of the city the country, as it extends inland, is quite hilly, but on the south-east lies a large alluvial plain formed by the delta, intersected by a perfect network of water communication, due to the different ramifications of the river. The land here as compared with other parts of this province is low and humid. The country people are chiefly engaged in rice plantations, and reside on the plains not far from their farms.

Malarious fevers are very prevalent not only in this neighbourhood, but throughout the whole province of Canton.

Prevalence of Leprosy.—The disease is *endemic*, and very prevalent. It is estimated that in the whole province of Canton there are over 10,000 lepers. I have no statistics to guide me, as these are not obtainable, but give the estimate as it was given to me by the headmen of the leper villages. It is considered that in almost every village of 1,000 or 2,000 inhabitants in this neighbourhood, one or two lepers may be found. There are two leper villages a few miles outside the city, one having about 700 or 800 inhabitants, and the other over 1,000, the greater proportion of whom, however, are merely descendants of lepers, with little or no trace of the disease on them. These lepers are not all from the city, but come mostly from the neighbouring districts, often from a considerable distance. In the city a good number still live among the community, as the law is not strict in enforcing their segregation. On the river it is supposed that there are several hundreds of lepers living in boats. Out of the whole empire leprosy is most prevalent in the provinces of Canton and Fukkien, and is but little seen in Kwang-si (an inland province west of this) and in the North of China. In this province again, although there is no district which is free from the disease, it is most prevalent in the neighbourhood of Canton, in the districts of San-ni, San-ning, Shun-tak, Hiang-shan and

* This Memorandum was inadvertently omitted from the last volume.

Tung-kun; also in districts south of Canton, as Yeung-tsun, Tien-pak and the island of Hainan. It is said to be more rarely seen in Kia-hing-chau, Ts'ing-yiin, and Kwang-ning, countries higher up the river and more mountainous.

Connexion of Leprosy with Malaria.—It is the unanimous opinion of the Chinese here that humid and low lying localities, exposure to damp and dew, and especially to the exhalations of hills and forests, and proximity to the sea, cause the spontaneous production of the disease. This opinion is found in their books, and is repeated in the answers I received from intelligent lepers and doctors whom I consulted on the subject, and who make leprosy their specialty. The prevalence of the disease in Canton and all the localities already mentioned, certainly favours the theory that the disease is most prevalent where there is abundance of moisture and water, and in districts near the sea coast. In China at least it is evident that heat and moisture are powerful causes. Beyond this there seems to be no immediate connexion between leprosy and malaria. That mere malaria does not produce the disease is abundantly shown in the continent of America, where in many places swamps are as conspicuous as the utter absence of leprosy. But even in leprosy countries the two poisons bear no relation to each other. In Shanghai malarious fevers are as common as here, while leprosy is far less prevalent. In nearly all the patients who have come to me for malarial cachexia, anaemia, enlarged spleens, dropsies, or otherwise suffering severely from ague, I have not observed a single case of leprosy; nor on the other hand has leprosy been generally seen in individuals suffering frequently from malarious fevers. It is asserted "that those who are affected with the disease "have had frequent attacks of fever, and their general health has been much impaired." This would not be correct here. I have questioned many lepers whom I saw in the Hospital and in the leper villages, on this point, and have always been told that before the accession of the disease they had not been subject to frequent attacks of fever and ague. It is true that in some cases they have feverish attacks, but these are fevers that immediately precede some eruptions of the disease,—not malarious, but eruptive fevers. Some, whose systems are charged with the poison, have these attacks five or six times a year, some two or three times, and some not at all. As to the state of health preceding the disease, it may be stated as a general rule that the individuals attacked were not in weak health before the disease came on them, however they might be afterwards. We should be led into wrong impressions by supposing that the disease attacks individuals who are either underfed, suffering from the effects of malaria, or bear the appearance of weak health. Doubtless they have points of weakness,—some peculiar diathesis,—but these are not perceptible to our eyes.

As to the effects of cultivation and drainage on Leprosy there is no means of judging in Canton. All the available land—the plains and valleys—of this province have long been under cultivation for rice plantations. Wherever we go, vast tracts of paddy fields meet the eye. There are no neglected marshes, jungles, and tracts of country with stagnant water; and as the country is old and has been under cultivation for centuries, no reliable information can be obtained respecting the effects of increased cultivation and drainage on leprosy and ague. But though the land is drained the paddy fields are more or less under water all the year, and must favour the production of leprosy and malaria. In Kwang-si, though rice is extensively cultivated, the paddy fields are not so much under water as here, and certainly leprosy is less prevalent.

The diet of the people.—The principal article of food is rice, which forms the bulk of sustenance. With this is eaten, as a sort of condiment, a little fish, fresh or salted, and some vegetables, often fresh, and sometimes pickled, to which is often added some meat, most commonly pork, sometimes ducks and fowls, and sometimes, though less often, beef. This is among the common people. Among the better class less rice and more meat is eaten. In the country the poorer people replace part of the rice with sweet potatoes and taro. Ground-nut oil is in most common use for culinary purposes, and next to it lard. Rancid oil and rotten meat and fish are not eaten. There is no opportunity of observing the effects of a large consumption of potatoes here. They are eaten in small quantities, and are not a common article of food. As to fresh vegetables, they have always been in extensive use here from time immemorial. It does not appear that

fish eating plays any part in the causation of the disease. There is no "Consumption of fish in abundance and as the chief article of food," even among people well-to-do, and certainly there is very little of it among the poorer class, among whom the disease is often seen, for they are unable to afford it.

Quality of the rice used.—The questions are asked "What is the extent of the cultivation of the soil? Is the grain used obtained from the district or imported? If imported, is it of bad character? How much of the grain used by those in leprosy districts is grown on uncultivated land?" The rice used by the population is generally good. Of the rice imported in ships often there is a small portion damaged by sea water. That in tolerable condition is used by the poor, and that unfit for food is given to pigs, or used for other purposes. Perhaps one half of the rice in general consumption is native growth of this province, and the rest imported from Kwang-si, Siam, Annam, and Japan. No rice is grown on uncultivated land in Canton; and the observation made by Dr. FARQUHAR, that "leprosy was comparatively absent in those districts of India where there was long established cultivation of a higher order, where the fields are properly cared for and manured, and where man lives industriously by 'the sweat of his brow,'" finds no confirmation in this part of China. In the whole province of Canton, and particularly in the neighbourhood of this city, the land is highly cultivated, the fields are industriously cared for, and manures in large quantities are used every year. Indeed without a proper amount, rice of a marketable quality cannot be produced, as otherwise it will be small and stunted.

Regarding *malnutrition* as a cause of the disease, it is difficult to point out any special article of food as particularly injurious or unwholesome. Perhaps greater vigour and a higher tone of the system might be attained by a greater consumption of animal food among the general population. But the people of Canton and its neighbourhood live comparatively better than people in other parts of China. Money is more plentiful here, and they are better fed, better clothed and housed than people of other provinces. This observation is especially true as regards Canton and the five comparatively rich districts in its neighbourhood where lepers do certainly abound. Taking individual cases, the victims of the disease are not people who are either underfed or have any peculiarities of diet different from the rest of the community among whom they live; and I believe that in nearly all cases where the disease is produced *de novo*, the mode of living and the food of the individuals attacked will be found to differ in no respect from that of other people. Still the hygienic condition and diet of the general population, especially of people in the country, need great improvement, and, as Europeans living in warm climates appear comparatively exempt from the disease, it is not improbable that a larger consumption of animal food among the people may impart a higher tone to the system, and render them less vulnerable to the influence of the disease.

Remarks on the existing condition of the disease.—"How many forms of leprosy do the natives recognise?"—The disease, as it is observed here, consists of no more than two principal varieties—the tubercular and anæsthetic, the tubercular forming nearly three-fourths of the number. According to native books and the common ideas held on the subject, there are 36 varieties. But the most experienced leper physician in Canton told me that there are in truth not more than five or six, the distinctions being founded on the different phases of the disease as it is seen at its different stages, or the varieties of form by the intermixture of the two principal species. But one variety of the disease deserves mention. The Chinese here believe that a woman may have her system so impregnated with the poison as to be capable of infecting healthy men, without any external marks except some unusual paleness of the face. I will recur to this hereafter.

"What other forms of disease are considered as akin to leprosy?"—The only disease considered as closely allied to leprosy is a red tinea-like erythematous eruption occurring in patches called *Hung-yün-hiueh-sien*, 紅雲血癬, blood-coloured ringworms. If they are curable they go by that name, and if incurable are considered as leprosy. *Morphœa alba*, and whitish patches with more or less anæsthesia, are regarded as varieties of the disease.

"Is the disease on the increase or decrease? Give statistics if possible."—Statistics are not obtainable. The headmen of the leper villages told me that the disease is on the increase compared with what it was 10 or 15 years ago. They have seen more lepers admitted into the place in late years. Old leper physicians

who have practised the cure of leprosy for 20 or 30 years also confirm the statement regarding the increase. On account of the increasing number of lepers admitted into the leper villages the government fund is now quite insufficient for their support, as each individual gets only 40 cents per month.

"In what races and castes does it exist? and by preference. Is it frequent in Europeans?"—The disease is found in all classes of people, the rich and well-to-do, as well as the poor, in the city as well as in the country, and among artizans and tradesmen as well as field labourers, but appears to be more common among the labouring poor and the agricultural class, though not in a very marked and noticeable ratio. Among Europeans I have heard of none attacked with the disease except one. He was the only European at all the ports in China who has been heard of as affected with the disease.* He was an old resident of this part of China, having lived here over 30 years, was a man of dirty habits, and was much in contact with the natives. But his case deserves mention in one respect. He had in his house a native assistant attacked with leprosy, in whom the disease showed itself not much in the face but in the feet and legs and hands. The other natives in the house avoided contact with him, and advised their master of the danger of keeping such company. He however could see no danger, and kept the leper in his employ for nearly 5 years, during which time, as he was no believer in contagion, he was often in close contact with him sitting and talking to him for hours, and going with him in boats to the country, where they would eat together from the same dish, and sleep in the same room of the small boat. He often lived on Chinese food, and the closeness of contact in his case with the leper must have been very great, as he was not very cleanly or particular in his tastes and habits. When the disease broke out very badly in the assistant's face he was sent away. About this time (1864), the European himself was attacked with the disease in his feet, which the Chinese attributed, not without reason, to infection from the assistant. In 1866, two years after the disease began, he returned to his native country, where he died in 1871 of old age and leprosy. He was then 68 years old, and before his death had lost some fingers. As a strange coincidence, it should be added that the wife of another native assistant, living in the same house, was also attacked with leprosy. This woman I have seen.

Proportion of cases of spontaneous origin to those from propagation.—There is no means of ascertaining this with exactness. The estimate as given to me by the headmen of the leper villages is 50 per cent. of the whole number, and as given by an old leper doctor, 30 or 40 per cent. In this I am inclined to concur. During the short time that I have specially directed my attention to this disease, I have found a far larger proportion of such cases than I expected, and if I were to judge from the cases seen in the Hospital in a few months, the proportion is even more than one-half. In forming this estimate I exclude all those cases supposed to have been communicated by cohabitation.

Propagation of Leprosy. 1. By intermarriage of the leprosy, or with the leprosy. Lepers do not intermarry with the healthy, but leprosy sometimes breaks out in people after marriage. Almost all the children of lepers show the disease. I have seen but few exceptions. As a general rule, the disease becomes milder in each succeeding generation, so that in the third generation of the descendants the disease is seldom visible, and they can hardly be distinguished from ordinary people, except perhaps by a greater pallor of the face. In the fourth generation it is considered quite safe to intermarry with them, though this is not generally done. In the two leper villages I saw crowds of men and women in whom I could discover no difference from the generality of healthy people. So long as marriage is confined among lepers themselves, there is a tendency to a natural extinction of the disease.

2. By hereditary transmission. Family taint undoubtedly favours the development of the disease, though it is impossible to estimate with anything like accuracy the extent to which it is concerned in its general production. In some families the uncle and nephew may have the disease while the rest are healthy; in others, one alone of several children is attacked; and although generally the descendants of lepers are free in the fourth generation, the disease in some cases reappears in one or two individuals. There is one

* ERASMUS WILSON (*On Diseases of the Skin*: 6th Ed. 1867) mentions at page 633 the case of a European long resident in Hongkong who was affected with leprosy.

family in Macao in which every generation produces one leper, and the Chinese observing similar facts in other families attribute them to Fung-shui,—the influence exerted on the family by the ancestral grave.

3. By cohabitation and inoculation.—There is no chance of the healthy being inoculated with matters and discharges from leprosy sores except through cohabitation, as the generality of the Chinese here avoid even ordinary contact with lepers, believing the disease to be contagious. Lepers are shunned and have to live apart from society in villages and asylums provided for them. Complete segregation however is not secured in the city, and a good number still live among the community though in more or less isolation. This horror of lepers has a wholesome result, and doubtless acts as a safeguard against the excessive spread of the disease. Among the more intelligent classes of people and leper physicians ordinary contact is not believed to be contagious, but all are firm believers in infection through cohabitation, which, as a natural deduction, is considered a powerful cause of the extension of the disease. Whether in cohabitation it really is contagious or not is a question of deep interest but difficult of solution.

In the first place I must advert to a fact of very common observation, that among husbands and wives either may have the disease without infecting the other, though living together for many years. I have seen a man suffering severely from anæsthetic leprosy whose wife is unaffected, and I have seen an elderly man who told me that his wife is a perfect leper, but he himself appeared to me quite free. I know two more cases of leprosy women whose husbands are unaffected, and I have also heard from competent and reliable eye-witnesses of several cases of wives of leprosy husbands showing no marks of the disease. Indeed non-infection between husband and wife is regarded as a matter of common occurrence. There are however exceptional cases. An old leper doctor told me that he had seen many cases of wives of leprosy husbands having eruptions of the disease, and he mentioned two cases. Another eye-witness told me that he had seen a case of husband and wife both showing the disease, though neither had it before marriage. I know of one thoroughly reliable case where the husband had the disease first and the wife afterwards. If we are to judge from such data we must regard the disease as non-contagious as a rule, with occasional exceptions. But the natives here believe that wives of lepers, even when showing no marks of the disease, are capable of infecting healthy people through cohabitation, and that long observation has established the fact, however incredible it may appear, that cohabitation with such people is very commonly followed sooner or later by attacks of leprosy. Experience in proof of the above hypothesis might be wanting, were it not afforded by another popular belief of, I think, a decidedly erroneous character, namely, that they can rid themselves of the poison, if it is mild, by sexual connection with healthy men. Hence arises a most common and pernicious practice of women, who believe themselves infected, going about in disguise trying to get rid of their poison by clandestine and gratuitous prostitution. This goes by the name of "selling off leprosy." It is an exceedingly common practice here, and, if it be true that infection is thus communicable, may be, as the Chinese regard it, a prolific means of propagating leprosy. As no one will touch a woman with all the looks of leprosy, it can only be done by women who have no appearance of the disease, or before it breaks out in them. These women are said to have greater pallor of the face than usual, and to be wanting in natural healthiness and freshness of look, but these symptoms are not always discernible by people who are not on their guard. The investigation of this subject is beset with great difficulty, for when a case of leprosy ascribable to such origin is related, the evidence is somewhat defective, because the woman is seldom to be found. However when we find women going about alone in the dusk of evening, or before the break of day, assuming different characters, and putting themselves in situations of temptation, or allowing themselves to be tampered with, we take for granted that they are wives of lepers, or women who believe themselves infected in some way or other with the poison. I have heard a great number of cases of leprosy attributed to such origin, but have not had an opportunity of seeing one personally. Many eye-witnesses have related to me cases occurring in their own friends or relations, of the disease breaking out from two to four months after cohabitation with women of the character described, some of whom when traced afterwards were found to be really lepers' wives. I have thorough confidence in the veracity of these witnesses, and the women we may take for granted to be wives of lepers, as there is no motive in any others pursuing such a practice. There is no chance of the disease being mistaken, as it is easily recognised. When only a single individual is affected,

there is a possibility of the disease being of spontaneous origin. It is the commonness of such occurrences, the frequent coincidence between cohabitation and the outbreak of leprosy in individuals healthy, and with no family taint, that gives rise to this universal belief in infection. When, however, several individuals are affected from the same woman, the probability becomes in proportion stronger. I believe that infection through cohabitation is one source by which the disease is propagated, and unless this is admitted, it is difficult to account for the large number of cases of people in good circumstances, and with no family taint, attacked by the disease. As has been remarked before, the disease is not exclusively seen among the poor and ill-nourished, but often attacks people in the full enjoyment of health, and under very favourable hygienic circumstances, who have no family taint, and who could only ascribe their disease to infection. The Chinese know well that family taint gives liability to the disease, and when they attribute a case to infection it is understood that there is nothing in the family history to account for it.

I subjoin a few cases showing that there is at least a great probability of the disease being communicable through lepers' wives seemingly unaffected in appearance. The first is one of considerable interest.

1.—A-CHOY, a female servant in my house, told me some time ago that she had a distant cousin married to a man Ho, living in Tai-shek, a village not far from here; they have been married 16 years, and have several children; 7 years ago the husband was attacked with leprosy, but his wife, who has always lived with him since, showed no symptoms of the disease. Her friends, and even her mother's family, were shy of her company, but she always denied the existence of the disease in her system so long as it did not show itself. This the servant mentioned to me as an instance of the non-infectiousness of the disease between husband and wife. But she had not seen her cousin for some years. Lately she went home, and found that the disease had actually made its appearance on her face more than a year ago, when she thought she was quite free, and I was informed of this rather incidentally, while I was conversing with some others on the subject.

Here is a case that can be relied upon. This woman, whose family history is known to my servant, has no family taint, and it seems that long exposure to, and contact with, leprosy secretions have succeeded in producing some alteration in her blood and constitution, and it is highly probable that, even before the disease had manifested itself by eruption, cohabitation with her would have been followed by infection.

The following three cases were related to me by an old friend, an eye-witness to the facts.

2.—In the district of San-ni, 2 miles from my friend's residence, lives one Mrs. KAN, the widow of a leper who died some years ago. She is owner of some farms and of shops in Canton. My friend knew this woman, and has personal knowledge of three cases of leprosy derived from cohabitation with her. Two were young farmers, A-LIK and A-KOW,—his pupils in the art of fencing. When they went to her house to buy straw ashes for manure, she embraced the opportunity to "sell off her leprosy." This took place in the 11th month of the year before last. Four months after, leprosy broke out in the face of both, on one some days before the other. These young men, being recent arrivals from another district, were totally ignorant of her character. The third man, LI A-CHUNG, was an old acquaintance of my friend. He went to the district where this woman lives, to practice vaccination, and was induced by her to make his stay in her house, where he lived three or four days with her in unnecessary intimacy. Four months after, leprosy spots were visible in his face, and the man now is quite a leper. All these people are still living, and the personal histories of the three men are well known to my friend,—none of them having any family taint.

3.—In another village, about a mile and a half from my friend's residence, lives another woman whose husband was a leper and died some years ago. She is about 30 years old, and good looking. Although it is said that many cases of leprosy in the place could be traced to cohabitation with her, yet my friend could speak from personal knowledge only of one, as it happened to his cousin A-SHUI a dealer in pigs, who had occasion to go to this woman's house to borrow money and to pay her. She practiced on him her usual art of seduction, and in 100 days leprosy broke out on his face; he thereupon revealed the cause of his disease, and some time afterwards committed suicide.

4.—In June 1872 a personal acquaintance of my friend, named TAM, aged 50 years, was driving an ox, which he had borrowed, back to its owner in Shou-tak. On his way he was met by a young woman who led him to some mulberry bushes. They were seen by some one, who on the same day told the man

that the woman was a known leper, and that he would certainly get leprosy. He was uneasy, as the woman was in truth a leper's wife. In August, two months afterwards, the man was attacked with leprosy, so that when my friend last met him, he was ashamed to show his face.

The following is given by a man in my house, A-SHING, who was also an eye-witness to the facts of the case.

5.—About 18 miles south of Canton there is a country fair called San-ts'o fair. In the summer of 1867, a young woman, accompanied by an elderly one, came several times to the place, ostensibly to buy young pigs, but really to "sell off leprosy." They were strangers, and came very early in the morning to the market. One young man, A-CHUN, first fell into the snare, then another named LI, a blacksmith, and then a third, a boy of 16 years. These three in some way or another let the secret out to their friends, and as the latter gradually got knowledge of it, they began to laugh at them, predicting the outbreak of leprosy. A-SHING was there at the time, and joined in the general chaffing, which was kept up for over two months, when a slight alteration in their looks made their friends rather shy of eating with them. In three months time after the appearance of these women, two of the three were attacked with leprosy in their face, one 10 days before the other. In the boy of 16 no spots had yet appeared, but his master, seeing that the disease had broken out in the other two, as had been anticipated, at once sent him away. These women after two or three visits came no more to the fair.

A medical friend told me the following:—

6.—Some years ago he had a patient under his treatment for leprosy. The patient was employed in a rice shop in Shou-tak. One day he carried rice to a large house. Instead of putting down the rice in the outer rooms of the house he was ordered to take it to some inner apartment where he saw a beautiful woman who rather encouraged liberties to be taken with her. When he was coming out, to his great terror, he was met by a man with hideous features, who said to him, "What have you been doing? How could you suppose that such good fortune should await you for nothing? You will be like me." The man went home, and in about a month and a half's time leprosy broke out in him. He told this himself when he came under my friend's care, who had him under treatment for a while. There is no reason to suppose that the patient unnecessarily told a story that people here are too anxious to conceal. The last thing heard of him is that he is quite a leper.

H.—Dr. F. Wong's Report on the Health of Canton, for the half year
ended 30th September, 1873.

THE past summer was remarkable for the most terrible thunderstorm that has occurred for many years. On the afternoon of the 13th of May there was incessant thunder and lightning for two or three hours,—loud explosions and vivid flashes following one another in close succession, while rain descended in torrents. Three foreign houses were struck by lightning, but the amount of damage done was not great. For two weeks afterwards the thunder and lightning recurred for hours every day, though in a less marked degree than on that afternoon. The thunderstorms of this period were not confined to Canton, but prevailed in many places, including Hongkong, Macao, Fat-shan, Shiu-hing, and all the districts adjacent to this city. There was no loss of life among foreigners, but it was reported that about a dozen individuals were killed in the city, a few in Macao and Fat-shan, and a good many in Shiu-hing and other places at sea and on land. Twice about this time there fell showers of hailstones of great size—the largest being about the size of betel-nuts.

The rainfall of this summer has been excessive. With slight intermission it rained for nearly five months, from April to September, the fall being great in quantity and long in duration, damaging by its long continuance the rice crops, and flooding some parts of the country, such as Sin-hui and K'ai-p'ing, where the land is low.

This long period of rain kept the weather cool, and consequently the general health of both foreigners and Chinese this year has been exceptionally good. Among the foreign community there has been, as in previous summers, very little sickness, and nothing of professional interest. It is among the large population of natives in the city that the relation of weather to sickness is most observable. During the whole time of the rain there was comparatively little sickness in the city, but as soon as the rain ceased, and was succeeded by heat, numerous cases of fever appeared. It is the predominant disease of summer, and always preserves a fairly uniform ratio with the state of the temperature; if the heat is prolonged or intense, fever cases become in proportion more numerous and intractable. Diarrhoea and dysentery, though increased by heat, are not so markedly related to it. In the beginning of May there was a great prevalence of diarrhoea in the city, but after the thunderstorm of the 13th, scarcely any sickness was heard of till the beginning of July, when the weather becoming very hot, many cases of fever and diarrhoea were observed. To this a long period of rain succeeded. In September the heat was intense, especially during the first ten days, and fever again made its appearance among the native population. As this is the time of the change of the monsoon, the weather was unhealthy, and so with the first appearance of the north wind, sore throats, coughs, catarrhs and bronchitis became prevalent. By some old residents September is regarded as the worst month of the year, but the September of this year was certainly the hottest we had experienced for many years. Still, taken as a whole, this has been an unusually healthy year for the Chinese population.

Measles have been more than usually prevalent this year, many cases having been seen even in June. It is said to have attacked adults. Nine foreign children suffered from it, one of whom died from the sequelæ of the disease. The sequelæ from which Chinese children suffer are chiefly diarrhoea, general debility and ophthalmia, and, very rarely it seems, affections of the lungs and trachea.

Epidemics.—Excepting measles there has been none. No dengue made its appearance here, nor cholera. Although in the early part of July, when cholera was reported to be raging in Bangkok, and many cases were seen in the Straits, it was said that the disease was making its appearance in the city, I have not been able after repeated inquiries to verify the statement. The heat was then intense, and there were a few cases of rapid death from other causes. With regard to sporadic cases of Asiatic cholera in summer, I have

made some inquiries, and have been informed that they are very rare. It is not improbable that in a large city like this a few individual cases may occur in summer without exciting general attention. I myself saw some years ago a fatal case of the disease attacking a European lad when there were no other cases in the neighbourhood; and I saw at another time a European adult attacked with it, his being the only case at the time. He was saved by a sub-cutaneous injection of morphia, as medicine could not be administered in any other form. Individual cases then may, and probably do, occur in summer, though, so far as my inquiries and observations go, they are seldom met with. There is some difficulty for native observers to distinguish between cases of English cholera and sporadic cases of Asiatic cholera, especially of the milder form, so that any information on this subject from such sources can only be an approximation to the truth. English cholera, or acute cases of vomiting and purging, are tolerably common every summer, though there has been very little of it this year.

The term *hoh-lwan* 霍亂, commonly used to signify cholera, seems to answer more to the English than to the Asiatic form of the disease. It is a general term, including colic, English, and sometimes Asiatic cholera. When the disease takes on the epidemic form, it goes by the name *wan-yih* 瘟疫, and not *hoh-lwan*, though *wan-yih* properly means pestilence. Even to a Chinese physician the term *hoh-lwan* suggests none of the dreadful ideas usually associated with epidemic cholera in the mind of a European, which seems to show that *hoh-lwan* does not mean epidemic cholera.

During the last 6 months there have been 7 deaths among foreigners.

1. Died of pulmonary phthisis. The patient came from Hongkong in an advanced stage of the disease, and died two months after her arrival.
2. Child of the last; arrived here in a state of extreme debility, and died very shortly of marasmus.
3. Death from drowning. The subject of this accident is supposed to have fallen into the water, while he was walking home along the edge of the bund in Shamien, on a very dark and rainy night (24th April).
4. Death from fever.
5. Death from delirium tremens. The last two were in the Chinese guard-boats, and died from drink and carelessness. Professional assistance was not sent for till it was too late.
6. Died of bronchitis—the sequela of measles; subject was a child about 6 years old.
7. Died of diarrhoea: subject, 11 months old, was taken ill and died at Macao. The last two were children of the same family.

LIST of Diseases treated during the last 6 months.

Measles,	12 cases	Asthma,	1 case
Varicella,	3 "	Phthisis Pulmonalis,	4 "
Intermittent Fever,	46 "	Dyspepsia,	3 "
Remittent,	2 "	Dysentery,	4 "
Febricula,	6 "	Diarrhoea,	39 "
Catarrh,	8 "	Colic,	3 "
Rheumatism,	13 "	Sore Throats and Tonsillitis, .	9 "
Alcoholism,	3 "	Hepatitis,	1 "
Dementia,	1 "	Hepatalgia,	1 "
Epilepsy,	1 "	Congestion of Liver,	4 "
Neuralgia,	7 "	Torpor of Liver,	6 "
Chronic Headaches,	2 "	Inflammation of Gums,	3 "
Functional disease of Heart, ..	1 "	Umbilical Hernia,	1 "
Adenitis,	6 "	Hæmorrhoids,	2 "
Bronchitis,	7 "	Irritation of Bladder,	4 "

Orchitis,	1 case	Tinea Circinata, Prurigo, Impetigo, &c.,	8 cases
Passage of small Urinary Calculus,	1 "	Ulcer and Abscess,	6 "
Menorrhagia,	1 "	Boils,	14 "
Conjunctivitis,	9 "	Whitlow,	1 "
Iritis,	2 "	Bruises and Sprains,	6 "
Acute Granular Ophthalmia, ..	1 "	Burns and Scalds,	1 "

Phthisis.—The question has sometimes been asked whether Canton is a good residence for phthisical patients. I certainly do not think so either from theory or observation. It is well understood now that the opinion formerly entertained that hot climates are favourable to consumption was founded upon error. A tropical heat is in itself debilitating to a consumptive patient, but it is also most injurious in preventing him from taking constant exercise in the open air, which in this disease is all important in order to stimulate nutrition. A patient in the earlier stage of the disease, by being much in the open air, and placed in circumstances calculated to stimulate his digestion and nutrition, has considerable chance of getting the progress of the disease arrested, so that even cavities will sometimes heal up and cicatrize. But in this place, the long summer with its heavy rains precludes the invalid during the greater part of the year from taking exercise when he likes, or living an out-door life; and besides there are no good walks here leading into the country, where he might ramble leisurely and without weariness, having his mind diverted by the variety of objects and scenes before him. Of the few cases of phthisis that I have seen among Europeans here, not one I believe has derived advantage from residence in this place, whereas I know of several individuals who came here quite well and strong, and whose phthisical tendencies were rapidly developed within a few years after arrival. On this subject I cannot do better than adduce the authority of one of the best writers on phthisis, Dr. Hughes BENNETT of Edinburgh. "It will be invariably observed," he says, "that unaccustomed warmth, the excessive heat of summer and autumn, or the climate of India and other tropical countries, is most injurious. Continuous frost and cold are in themselves beneficial, but by preventing the individual taking exercise in the open air, they are not on that account to be recommended. What is required is a cool temperate climate, free from great alternations of temperature, which should range from 55° to 66° Fahr. during the day, and from 45° to 55° at night. The air should be dry, with only slight moisture, little rain, and a clear bright sun. Such an exhilarating climate in which exercise can be taken almost daily in the open air during the winter and spring months is the best for the consumptive patient. * * Many observations have satisfied me that the still, warm, and moist relaxing atmosphere, though of the greatest service in cases of asthma, is injurious to the phthisical invalid."—(REYNOLDS'S *System of Medicine*, vol. iii., page 579.) To me it seems that a tropical climate like this, with its long summer heat and rain, its often sultry atmosphere in these months, debarring the patient, when he is well, from taking frequent exercise in the open air, and when he is ill, putting him into a state of constant excessive perspiration, is calculated to hasten rather than to retard the progress of the disease. Among the natives of Canton, though consumption is tolerably prevalent, I believe it is by no means so common as in Europe or America. In this opinion Dr. KEER, who has been many years in this part of China, concurs. There is no means of ascertaining with anything like accuracy the extent to which this terrible disease prevails among the native population; the statistics of missionary dispensaries afford us no aid on this point, because the Chinese, always preferring their own system of medicine for internal diseases, bring only a small proportion of such cases under the cognisance of the foreign physician. The estimate I form is from the observations of many years, and from inquiries made at many times of natives who have opportunities of observation; and I think there is no risk in asserting that the disease is much less prevalent here than in Europe, though why this should be so it is more difficult to say, as the causes which produce consumption, such as bad air, insufficient food and exercise, bad hygiene, &c., must be much more operative, and must exist to a greater extent here than in the more civilized countries of Europe and America. One thing ought to be mentioned in

connexion with this question, (if pneumonia and bronchitis have anything to do with the genesis of phthisis) namely, that the Chinese here are not liable to acute affections of the chest. I do not remember to have seen a case of idiopathic pneumonia in a Chinese, and scarcely a case of acute bronchitis, though chronic bronchitis is common, and so also to a certain extent is asthma.

The people most commonly affected with phthisis are not, as we should naturally expect, the labouring poor, but the families of the rich. It is much more prevalent in the city and among men of business than in the country, and in women than in men; and it is said to be somewhat common among barbers. It is not a disease of the labouring class, is not common in the rural population, and, as might be expected, is rare among boat people. To all my inquiries the reply is unanimous that consumption is far more common among the families of the rich than among the labouring poor; and this deserves attention. Among the former, besides the life of idleness and dissipation, I think the practice of getting fair-complexioned and delicate-looking females for concubines, often too while very young, must naturally cause the offspring to be of weak and strumous constitutions; for in China, as well as in Europe, phthisis is most commonly observed among people of fair complexion and delicate organization. The rich here keep many wives, lead lives of idleness, and take no muscular exercise, so that riches in China seem to induce physical degeneracy of the race. The rarity of consumption among country people, and the greater exemption from it of the labouring class in the city, notwithstanding that they are badly housed and badly fed, must be attributed to exercise and life in the open air, and I am inclined to think that their food, though poor in quality, is not as a rule insufficient in quantity. Still I cannot quite understand why phthisis is not more prevalent than it is among them, especially the country poor, whose food often seems not more than sufficient to support life. Scrofula, another form of the disease, is often seen in the hospital. The whole subject deserves investigation.

The natives of Canton are said to be liable to phthisis when they live in the north. I do not know what truth there is in the statement, though if it be true, it only confirms the general observation that natives of the tropics on going to cold climates are more liable to the disease than they are in their own country.

Treatment of Leprosy by Arsenic.—I do not advert to this treatment as anything new but simply to put on record what I have observed. In the missionary hospital here lepers are not admitted into the building for systematic treatment. But many lepers come on dispensing days, when they are supplied with mixtures of arsenic or Donovan's solution; and I certainly have seen many cases very much improved by the long-continued use of the medicine. The kind of leprosy mostly benefited is a mild species of the anæsthetic variety—reddish patches of irregular shape, with slightly elevated margins, but with sensibility impaired in the part affected. Sometimes, instead of patches, there may be only scattered spots or blotches of reddish colour. I have seen the discoloration gradually fade away under the use of the arsenic, or arsenic varied occasionally with iodide of potassium. A short time since I saw a patient who first came to the hospital 7 or 8 months ago with these characteristic blotches on his face, of whose case I took some notes, and I was surprised to see that the spots have quite disappeared. He has been taking arsenic. Bad cases of leprosy with well developed tubercles, or with contracted fingers seldom come to the hospital. In this city we seem to have many cases of the mild variety just mentioned, and there may be sometimes some difficulty in distinguishing them from tinea and other skin affections. But the impaired sensibility is a diagnostic mark of the disease. Patients affected with this mild variety of leprosy mix pretty freely with the general population, and they can do so as long as the disease is not well marked in the face.

I.—Dr. J. FRAZER'S Report on the Health of Tientsin, for the half year ended
30th September, 1873.

NOTWITHSTANDING a very hot and rainy season, together with a fresh inundation of the surrounding country, the health of the foreign community and shipping during the above period has been very good.

Three children died—two from remittent fever, one from diarrhoea—they were all very delicate from their birth.

List of cases treated during the six months.

I. Diseases of Digestive Organs :—		IV. Diathetic Diseases :—	
Dyspepsia,	11 cases.	Rheumatism,	11 cases.
Diarrhoea,	5 "	V. Miasmatic Diseases :—	
Colic,	4 "	Intermittent Fever,	26 "
Dysentery,	3 "	Remittent Fever,	6 "
Constipation,	4 "	VI. Skin Diseases :—	
Tapeworm,	1 "	Leprosy,	1 "
Piles,	2 "	Herpes,	2 "
II. Diseases of Circulatory System :—		Scabies,	1 "
Aortic Disease,	1 "	Eczema,	2 "
III. Diseases of Generative and Urinary Organs :—		VII. Eye Diseases :—	
Gonorrhoea,	6 cases.	Ophthalmia,	7 "
Syphilis, Primary,	1 "	VIII. Accidents :—	
" Secondary,	7 "	Wounds,	4 "
Cystitis,	1 "		

Dysentery.—Of the three cases, two were of a mild form and readily yielded to the ipecacuanha treatment. The third, a case of chronic dysentery, was imported, and while under observation, was not benefited by any treatment.

Ethetic Diseases.—Tientsin has been always remarkably free from venereal diseases. The nine cases which came under observation during the period of this report were all contracted in Southern ports. Dr. McCLEMENT of H. M. S. *Curlew* informed me that during the 6 months the ship remained at this port not a single case of syphilis occurred on board.

Intermittent Fever.—The cases were nearly all of the tertian type, and the majority readily yielded to small doses of quinine. In a few it was found necessary to have recourse to arsenic, strychnine or bromide of potassium. I have several times found the latter medicine when administered in 15 or 20 grain doses, three times daily, with extract of bark, entirely successful in curing the disease when the usual remedies failed.

Remittent Fever.—Out of six cases two were infantile remittent, and were both fatal; four were a mild form of the ordinary marsh remittent, and were readily amenable to treatment. A severe form of the latter fever was prevalent among the native inhabitants. It was very fatal owing to dysentery setting in during convalescence. This form of fever was almost unknown in Tientsin prior to the inundation of 1871, so that its origin is easily traced to the saturated condition of the subsoil, owing to want of proper drainage.

TABLE of extreme temperatures and prevailing winds from 1st April to 30th September, 1873.*

MONTHS.	MAX.	MIN.	PREVAILING WINDS.
April,	72°	34°	S.W.
May,	80°	54°	S.E.
June,	86°	64°	N.E., S.W.
July,	96°	75°	S.E., S.W.
August,	95°	73°	N.E., S.E.
September,	89°	52°	N.W.

* Thermometer in the shade facing the East.

K.—Dr. Alexander JAMIESON's Report on the Health of Shanghai, for the half year ended 30th September, 1873.

FOR the following Meteorological table, with the observations which accompany it, I am indebted to Mr. C. DEIGHTON-BRATSHER, Assistant Harbour Master:—

MONTHS.	HIGHEST RANGE OF BAROMETER.		LOWEST RANGE OF BAROMETER.		THERMOMETER.		NUMBER OF HOURS RAIN.	NUMBER OF GALES.	PREVAILING WINDS.
	Barometer.	Attached Thermometer.	Barometer.	Attached Thermometer.	MAX.	MIN.			
	in.		in.						
April,	30.356	55°	29.846	68°	80°	41°	54	3	Variable.
May,	30.251	59°	29.800	71°	84°	45°	35	2	S.E.
June,	30.155	70°	29.730	75°	82°	61°	45	1	E.S.E.
July,	30.010	81°	29.745	82°	96°	73°	9	1	S.S.E.
August,	30.050	74°	29.730	76°	94°	70°	36	0	S.E., N.E.
September,	30.160	70°	29.746	77°	85°	65°	75	3	N.E., N.W.

Barometer.—The maximum of 30.356 inches agrees nearly with the reading for the corresponding seasons during the past seven years. The minimum of 29.730, in June and August 1873, was, with the exception of 1870 and 1871, a higher range than any since 1866 during the same period.

Thermometer.—The maximum temperature, 96°, in the month of July 1873, was 2° below that for 1867, 1868, 1869, 1870 and 1872, and 3° below the maximum for 1871.

Rain.—Less rain fell in the month of June 1873, than in any June since 1864, with the exception of June 1871. The disparity is best shown by comparing the number of hours rain in the month of June for the past seven years. In 1867, 113; in 1868, 117; in 1869, 130; in 1870, 102; in 1871, 30; in 1872, 104; and 45 in 1873.

Gales.—No violent gale passed over this locality since the month of January, though several typhoons occurred to the southward and eastward of Yangtze Cape and on the coast of Japan.

Winds.—The prevailing winds for corresponding months may be said, as a rule, to be almost the same every year; but the steady breeze during the first three weeks of July 1873, travelling at the rate of from 21 to 40 miles an hour, was exceptional.

The past six months have witnessed little change, if any, in the sanitary condition of the settlements. There has been no improvement in the water supply, which is still drawn from the river, and, on the outside roads, from the creeks. Without the most sedulous care on the part of foreign residents on the Bubbling Well Road the water used in their houses for drinking and cooking purposes must be extremely impure. On several occasions I have seen specimens of drinking water actually in use which after precipitation and filtration were still, although iced, horribly offensive to the smell. Nothing short of precipitation and filtration followed by boiling and a second filtration can render the creek water fit for domestic use. It must be remembered that the creeks receive drainage from the manured fields, and that in them the natives living in their neighbourhood regularly scour their buckets. There will always be everywhere, but more especially in climates where the persons whose health is under consideration are exotics, many unavoidable sources of disease. But it is imprudence closely approaching criminality, to neglect important precautions against diseases often fatal, which precautions demand only the expense of a little personal trouble.

The estimated population of England and Wales in the middle of 1871 was 22½ millions, and the total deaths from all causes 514,879, or 22.6 per thousand. Of these deaths 23,126 were caused by small-pox, 9,293 by measles, 18,567 by scarlatina, 2,525 by diphtheria, 10,360 by whooping cough, 15,790 by "fever," 866 by cholera, 24,140 by diarrhoea, and 18,363 by "all other zymotic diseases, making," as the *Pall Mall Gazette* remarks, "in all a total of 123,030 lives prematurely cut short in England and Wales in one year "owing probably to deficient sanitary arrangements." This applies to a population counting millions of people whose circumstances prevent them from in any way controlling the conditions under which they live. The same excuse cannot apply to foreign residents in Shanghai, who, while they deny themselves no luxury which money can procure, are apparently insensible to the dangers whose avoidance is a necessity. The alarming frequency and fatality of diseases of the circulatory system among foreigners in China ought now to have its effect in causing each person to examine his manner of life. In this connexion the following extract from a late lecture on *Functional Diseases of the Liver*, by Dr. MURCHISON, is worthy of the most attentive perusal and consideration by the laity even more than by members of the medical profession :—

What in many persons is merely a form of senile decay may, under certain conditions, occur at a comparatively early period of life. Many observations have satisfied me that persons who habitually consume a large quantity of rich and stimulating food and of alcoholic drinks, who take little exercise, and whose urine is constantly loaded with an excess of lithic acid and lithates are particularly prone to fatty degeneration. ANDRAL and LOBSTEIN long ago connected atheroma of the vessels with "a particular taint of the fluids closely resembling gout" (HASSE, *Diseases of the Organs of Circulation and Respiration*, Syd. Soc. Tr., p. 82), and it has been a common observation by physicians practising at spas resorted to by gouty patients, and borne out by my own experience, that atheroma of the arteries at an unusually early period of life, and diseases of the aortic valves which are not congenital, and are independent of injury or rheumatism, are met with far oftener in persons who are the subjects of the lithic acid dyscrasia or who have had gout, than in those who have no such tendencies.*

"What," says CARLYLE, "in these dull unimaginative days, are the terrors of conscience to the diseases "of the liver?" Regarded as serious and often fatal in themselves, these diseases may well excite terror in the breast of an eastern resident, but when they are found to be, even in their less pronounced forms, the starting points of arterial degeneration with aneurism and heart disease in close prospect, the significance of a warning against avoidable error in food and drink is greatly enhanced. There are other dangers equally to be avoided, although it is not always possible to escape them. It should ever be borne in mind that there are many things which may with impunity be done in Europe but which no person of prudence will attempt to do here. At certain seasons the conditions that surround us resemble those which constantly exist in regions proverbially fatal to European life, such as the West Coast of Africa. The majority find it difficult to realise this fact, because for many months out of the year the Shanghai climate is quite as desirable

* *Lancet*, vol. i. of 1874. p. 504.

as any home climate. Yet at the dangerous season the description given by Winwood READH of the conditions prevalent on the West Coast would apply with almost equal force to Shanghai.

The African fever * * * gradually weakens and depraves the system, preparing the way for other diseases, and sometimes creating complaints of its own. No precautions can save the resident from fever, but a well-regulated life can certainly diminish the frequency and virulence of the attacks. The mid-day sun and the night air should be avoided, the clothing should be warm and the diet generous; for an empty stomach is an open sepulchre, and the policy of total abstinence is doubtful. Many awful cases of teetotallers prematurely carried off are cited on the Coast. On the other hand, temperance is essential to health; whatever in England would produce a morning headache or a state of nervous debility and languor, will in Africa be attended with very serious results. * * * I have remarked that the busiest men are those who suffer least, but * * * no one enjoys in Africa that elasticity and buoyancy of body which is felt at home. Women almost invariably lose their beauty, children almost invariably lose their lives.*

Fortunately for us, the dangerous season is a short one, and can be avoided by a migration to Chefoo, or mitigated by indulging in one or two short sea trips during its course. Even those whose circumstances compel them to remain in Shanghai may tide over many dangers by a judicious use of quinine and stimulants independent of medical advice, and over and above the ordinary precautions dictated by common sense. BINZ has pointed out (*Arch. f. Expt. Path. und Pharmak. i. of 1873*) that quinine by its action on hæmoglobin lowers the oxidising power of the red blood corpuscles which by yielding up as they pass oxygen to the white corpuscles render the latter active. By withholding oxygen the white corpuscles are thus prevented from penetrating the walls of the blood vessels. The diminishing of oxidation lowers the temperature, lessens the excretion of nitrogen, or in other words the waste of tissue, and retards the movements of the white corpuscles. Quinine moreover possesses a parasiticide action on low organic forms and may therefore be assumed to check the development of disease germs. To some extent alcohol acts in a similar manner, limiting the movements of the white blood corpuscles and other masses of protoplasm. This would explain the diminution of temperature in fever after the administration of alcohol.

No general caution is of more importance than the absolute necessity of immediate attention to bowel derangement. Dysentery and typhoid fever are here constantly lying in wait for the unwary. Whether the former disease is always specific is fairly open to doubt, and the specificity of the latter is denied by one of the greatest living authorities on the subject. At all events, safety lies on the side of assuming that both may arise without the implantation of a specific poison, derived from a previous case of the disease. A severe inflammatory form of diarrhoea is frequently produced without ascertainable cause other than a sudden fall of temperature, especially when the fall is accompanied by a large proportion of watery vapour in the atmosphere. TYNDALL, quoted by Dr. OLDHAM in the *Lancet* (vol. i. of 1874, page 499), states that the heat-abstracting power of the vapour of water is 16,000 times that of dry air. Hence the depressing effect of a cold damp day, and the danger incurred by those who do not pay proper attention to clothing, by the sudden onset of cold and damp after a series of hot days.†

* *African Sketch Book*, vol. I., p. 15.

† These general remarks on the preventable conditions affecting health in China may be suitably closed by the following extract:—

Well, I said, and to require the help of medicine, not when a wound has to be cured, or on occasion of an epidemic, but just because by their lives of indolence and luxury, men fill themselves like pools with waters and winds, compelling the ingenious sons of Asclepius to give diseases the names of flatulence and catarrh; is not this, too, a disgrace? * * * I do not believe that there were such diseases in the days of Asclepius; and this I infer from the circumstance that the hero Eurypylos, after he has been wounded in Homer, drinks a posset of Præzian wine besprinkled with flour and cheese, which are certainly rather inflammatory, and yet the sons of Asclepius who were at the Trojan war do not blame the damsel who gives him the drink, or rebuke Patroclus who is treating his case. * * * [which is] not strange * * * if you bear in mind that in former days, as is commonly said, before the time of Herodicus, the guild of Asclepius did not practice our present system of medicine, which may be said to educate diseases * * * by the invention of lingering death. PLATO; *Republic* iii:—JOWETT, vol. ii, p. 232.

During the half year there were, as far as I can gather from the Burial returns and the General Hospital records, 48 deaths, distributed as follows through the months:—

BURIAL RETURN FOR THE HALF YEAR ENDED 30th SEPTEMBER, 1873.

DISEASE.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
Variola,	1	1*	—	—	—	—	2
Pneumonia,	f 1	1†	—	—	—	—	2
Phthisis,	1	—	—	—	—	1	2
Aneurism,	1	—	1	1	1	—	4
Atrophy of Liver,	—	f 1	—	—	—	—	1
Convulsions,	—	1§	—	—	—	—	1
Suppurative Hepatitis,	—	—	1	—	—	1	2
Enteritis,	—	—	1¶	—	—	—	1
Meningitis,	—	—	1	—	—	—	1
Acute Mania,	—	—	—	1	—	—	1
Alcoholism,	—	—	—	1	—	—	1
Typhoid,	—	—	—	—	—	1	1
Cancer,	—	—	—	—	—	1	1
Albuminuria,	—	—	—	—	—	1	1
Chronic Dysentery,	—	—	—	—	—	1	1
Acute Dysentery,	—	—	—	—	—	1	1
Parturition,	—	f 1	—	—	—	f 1	2
Tetanus,	—	1	—	—	—	1‡	2
Syncope,	—	—	—	—	—	1	1
Drowned,	—	2	2	1	1	2	8
Murdered,	—	—	—	—	—	1	1
Uncertified,	—	1‡	1||	4	m 1 f 1**	m 2 f 1 ††	11
Total,.....	4	9	7	8	4	16	48

* Unvaccinated. † Traumatic from fractured ribs. ‡ Infant aged 10 days. § Infant 19 months old. || Found dead. ¶ Infant 27 months old. ** Infant aged 25 days. †† Infant 3 years old. ‡‡ Infant aged 7 days.

Of the 48 deaths, 42 were males and 6 were females, 2 of the latter being infants. It will be observed that infantile mortality is very low in Shanghai, comparing most favourably with India and even with England and the Continent of Europe. Of the cases of aneurism three were aortic, and one abdominal. As usual, September was the most fatal month. The number of persons drowned calls for remark, and suggests the adoption of some precautions for the more effectual lighting of the jetties and for safety of ascent from sampans and descent to them at the pontoons. At present the nominal step which is placed on the face of each pontoon is little better than a trap even for men perfectly sober. The register of the General Hospital shews 7 admissions for alcoholism during the 6 months; 3 for remittent fever (1 fatal in July); 1 for typhus (fatal in August); 6 for typhoid, none of which were fatal; 10 for intermittent fever; 17 for dysentery (2 fatal in September) out of which 4 were admitted in June, 4 in July, 1 in August and 8 in September; 5 for small-pox (1 fatal); 2 for abscess of the liver in August (both fatal); 4 for diarrhoea

in July; and 25 for various forms of venereal. The total number of admissions of Europeans to the General Hospital for the period under review was 134, out of which 19 died, as in the annexed table:—

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

Tertiary Syphilis, ... 2 deaths	Remittent Fever, ... 1 death	Typhus, 1 death
Small-pox, 1 ,,	Phthisis, 2 ,,	Tetanus, 1 ,,
Abscess of Liver, ... 2 ,,	Dysentery, 2 ,,	Bright's Disease, ... 2 ,,
Pyæmia, 1 ,,	Cancer of Stomach, .. 1 ,,	Ascites, 1 ,,
Hemiplegia, 1 ,,	Aneurism of Aorta, . 1 ,,	

One man admitted on the 13th March with abscess of the liver died on the 1st June; but this death does not appear in the above list.

The health of the Customs staff was good during the six months, no case of serious importance having occurred, except one of suppurative hepatitis which will be found fully described farther on. There was the usual amount of dyspepsia and summer diarrhoea, the latter commonly attended with disproportionate hepatic congestion. There was likewise some intermittent fever; but the number of days of absence from duty on account of illness was very small both for the in-door and out-door staff. I have again the pleasure of drawing attention to the fact that enthetic disease continues to be conspicuous by its absence.

In July the alarm of cholera at Bangkok having reached Shanghai, provisional quarantine regulations were drawn up, and put in force against vessels arriving from Siam. The disease did not break out here, but it might easily have done so in spite of the most stringent regulations that could have been enforced. We can have no safeguard against the introduction of cholera or of any other epidemic disease. Our sole care must be to prevent its spread, by a persistent adoption of hygienic measures while we are still free from danger, and by the organisation of a special system of sanitation capable of being put into active work at the shortest notice.

A series of these reports must be imperfect so long as they do not contain a description of that troublesome disease, extremely common in Shanghai, and vulgarly known as washerman's itch, ringworm, or eczema. The ordinary eczematous affections are frequently seen here, and are as amenable to treatment here as elsewhere, but it only too frequently happens that the particular disease mentioned above proves almost invincible, and the sufferer leads for many months a more or less miserable life according as by temperament he is irritable or the reverse. Especially obstinate when it attacks the perineum, groins and inside of the thighs where heat and moisture combine to depress the vitality of the inflamed skin, the disease is commonly of brief duration when it attacks the axilla where much the same conditions are found.

So far as my experience goes "washerman's itch" may at once be divided under the two heads of parasitic and non-parasitic. Taken at the earliest stage the treatment of the two forms must be essentially different, the former demanding the use of parasiticides, the latter requiring merely rest and local sedatives in order to combat simple inflammation of the skin. Supposing however that—as is most frequently the case—the disease is neglected for a time until the simple erythematous eczema becomes ichorous, or the parasitic affection, while continuing to spread at the circumference, leaves behind it an ichorous surface from which no parasitic forms can be obtained, the treatment then becomes identical in the two cases, reserving only the point that so long as there is any evidence of parasitic growth at any part of the affected surface, to that part the application of parasiticides must be continued. It may be matter of doubt in what way the application of irritants such as "Goa powder," iodine or caustic potash acts, whether by actually killing the parasite or by setting up such an amount of acute inflammation in the epidermis as is inconsistent with the life of a low organism. The application is occasionally so rapidly effectual as to lead to the former opinion. In strong and healthy young men there is seldom much local disturbance after the destruction of the parasite even by solution of caustic potash. The resulting inflammation rapidly yields to simple soothing applications, although even here, the epidermal layer being destroyed along with the parasite, a white stain

surrounded by a dark areola is left, and some time usually elapses before the affected patch resumes the character of healthy skin. But where the constitution is at all broken down, the removal of the original cause is followed by the development of an ichorous eczema indistinguishable from the ichorous eczema of non-parasitic origin, and demanding, like it, not only suitable local treatment, but the internal exhibition of the so-called specifics—arsenic, iron or zinc. It occasionally appears that without the application of any caustic, the mere friction of the clothes or the constant scratching and rubbing induced by the intolerable pruritus suffices to kill the parasite, or to hasten its death already impending in consequence of the local inflammation it has itself set up.

The parasitic form first declares itself by an intense localised itching which is found to proceed from a circular or nearly circular patch of size varying from that of a three-penny piece to that of a florin. This patch is flat, very slightly elevated, faintly rough on the surface, and of a lean-of-ham colour. It may be situated any where, and may be single or accompanied by many others, but its seat of election is the abdomen, pubes, front and inside of the thighs, and especially the fold of skin between the thigh and the scrotum. It is usually at first single, but while rapidly spreading itself, it is followed in a day or two by a greater or less number of similar patches. If the surface be gently scraped a powdery substance is obtained, which, on the addition of a minute drop of distilled water, is seen under the microscope to consist of epidermal scales and of branched stems formed apparently by the longitudinal aggregation of minute cells. These evidently multiply with extraordinary rapidity. It is difficult to say what the natural course of each patch would be if left to itself. As a matter of fact it is never so left, for unless speedily destroyed by some medicinal application it is so violently scratched by the patient that, as noted above, an ichorous eczema quickly takes its place.

The non-parasitic form presents itself first as a faint blush with undefined margins. This immediately becomes the seat of itching and tingling which is only temporarily relieved by scratching. In this stage the application of a weak lead lotion, or of ROWLAND'S Kalydor is generally sufficient to arrest the progress of the disease. Left to itself, or rather violently scratched from time to time, flat vesicles appear on the inflamed surface in the course of a day or two. These vary in size from a small pin's head to half a pea. They contain at first a faintly opalescent, alkaline serum, which, in those that are not broken by rubbing, rapidly becomes turbid and then purulent. The vesico-pustules break and leave a raw surface—the papillary layer of the derma. On the perineum, groins and thighs crusts seldom form, as bathing and the natural secretion of the parts soften the commencing incrustation. The coalescence of several of these raw patches gives rise to a denuded surface of greater or less extent, but occasionally enormous, implicating the perineum, scrotum, abdomen nearly to the umbilicus, and the front and inside of the thighs half way to the knees. The suffering is now intolerable, the discharge, consisting of serum and broken down lymph and pus, is very large in quantity, sufficient to exhaust the patient, alkaline in reaction, and of an indescribable mawkish odour. Nervous irritability, due in part to sleeplessness, reaches its highest pitch. The surface is, in spite of a full conviction of the evil thereby caused, violently and repeatedly scratched until blood in sufficient quantity to dry into extensive black scabs is effused. Beneath these scabs the inflammatory process extends, spreading by the margin partly by the formation of fresh vesicles, and partly by auto-contagion. Thus an ichorous eczema of the inside of the thigh will produce a weeping eczema of the scrotum, which may be avoided by preventing the contact of the parts.

As the case proceeds the inflammation becomes more localised. A series of small boils forms round the margin of the patch. The patch itself gradually ceases to secrete, and in process of time, with frequent relapses, the skin again becomes natural in appearance. But even after this, there remains for months a tendency to eczematous inflammation which prevents the patient from ever feeling perfectly secure, over-exertion or the contact of soap often sufficing to start the inflammatory process afresh. This condition is that described by WILSON (*Diseases of the Skin*, 6th Ed. p. 143):—"A predisposition to exudative eczema of the mucous character is not unfrequently met with, without being followed by eruption; in this case the surface is itchy but without redness, and when rubbed becomes moistened with a viscous secretion having

"a strongly acid smell. This condition of the skin is commonly experienced on the scrotum and in the perineum, but may occur on any part of the body, and especially in the joints." It is at this stage that I have found arsenic and iron most certainly and rapidly effectual.

Dr. GARROD testifies to the frequent connexion of eczema and psoriasis with gout. MURCHISON (*Lancet*, i. of 1874, p. 580) is of opinion that these diseases arise from functional derangement of the liver though neither the patient nor any member of his family has suffered from gout. Tilbury Fox (*Skin Diseases*, p. 175) says that given the tendency to eczema the transmission of uric acid through the capillaries will certainly aggravate and occasionally excite an eczematous eruption. Such cases are only relieved even after years of arsenical and mercurial treatment by instituting a regimen calculated to arrest the continuance of the circulation of uric acid. It is also noted that children with eczema have often white stools.

A severe attack of eczema having passed by, the tendency to the formation of boils commonly persists. These boils may be large and solitary—ecthyma, in fact—or small and arranged in more or less continuous curves. The smaller boils implicate only the papillary layer of the derma, the larger implicate the fibrous layer and leave after them a permanent cicatrix. Whether superficial or deep they are excessively painful, and the lymphatics are constantly implicated. Thus a boil on the front of the thigh will produce a bubo in the corresponding groin, and a boil at the end of the sacrum will produce inflammation of the lymphatic vessels which wind round the gluteal mass. It is not uncommon for a crop of secondary superficial boils to accompany and surround each larger boil. After a delay of from six to ten days the contents begin to escape by two or more openings. A thin serous pus largely mingled with blood slowly exudes, followed by one slough or more. The progress of each boil is very tedious, but may be hastened by a tonic regimen, with hot baths and especially by baths of real or artificial sea water. It would be worth while to try RINGER'S treatment by the sulphides (*Lancet*, vol. i. of 1874, page 264). He recommends the tenth of a grain of sulphide of calcium in powder with sugar of milk every hour or two hours. It is well to remember however that almost the only substance which disguises the abominable odour of the sulphides is the oil of anise, and it would therefore be better to administer the drug in pill with the oil, no more being prepared at a time than is sufficient for one day's consumption.

The various modes of treatment have been incidentally mentioned in the course of the foregoing remarks. The acutely inflammatory condition of the skin should be constantly borne in mind as indicating a soothing plan of medication. Arrowroot poultices are sometimes demanded; the oxide of zinc ointment with or without glycerine sometimes acts well, although in many cases any greasy preparation increases the irritation. Soap in any form is, I think, injurious. Faintly alkaline baths diminish the tendency to secretion, and the intolerable tingling is immediately relieved by dabbing on a dilute lotion of the diacetate of lead combined with glycerine and rose water. In the majority of cases of ichorous eczema, the lead lotion not only relieves but cures, or at any rate removes all the acute symptoms and restores the skin to an apparently healthy condition, leaving no doubt in some cases that "predisposition to exudative eczema of the mucous character" to which WILSON refers in the passage quoted above.

WILSON (*Diseases of the Skin*, page 131) says positively "Eczema is not contagious," and HERRA (*Diseases of the Skin*, Syd. Soc. Tr., vol. ii., p. 137) is as distinct in his expression of opinion:—"This disorder is never contagious; for neither by close contact, nor by inoculation, can it be transmitted from one individual to another." Upon this it is only needful to remark that experience here does not justify this view, and that the subjects of eczema ought to have such a regard for their fellow creatures as to prevent so far as possible the likelihood of infection. I might support this by more than one case, but for obvious reasons I refrain from citing any.

With regard to the parasitic form there can be little doubt that it is communicated in various ways, but chiefly, I imagine, by underclothing. In Dr. HENDERSON'S Report for 1870, page 15, attention was drawn to the disgusting impurity of the water in which the clothes of foreigners are washed. Any one who cares to ascertain for himself the condition of the ponds used by the washermen need only visit the waste land lying between the Soochow creek and the Rifle Butts. They are shallow, stagnant and covered with green

scum, laden of course with minute vegetable organisms. Until some change is effected in the system of clothes washing, those who have any predisposition to "washerman's itch" ought to have such portions of their clothing as come into immediate contact with the skin, washed at home.

The following cases in private practice are important:—

A.—*Aphasia with complete paralysis of the right side and partial paralysis of the left*:—A new comer to Shanghai, after a premonition of brain mischief on the day of his arrival, in the shape of a transient loss of consciousness, was, a month later on, suddenly struck down by a stroke of almost complete paralysis. The sphincters were, however, not relaxed, neither priapism nor muscular twitching was present, and the left side of the body rapidly recovered motion and sensation. Total aphasia was observed from the commencement of the illness, in the early part of February, 1873, until the middle of March, during which time the left side had completely recovered, and various tokens of modified intelligence had been evinced by the patient. There had however been no corresponding restoration of the powers of speech or of expressing meaning by writing or other intelligible action. The physical condition varied during this time, but in the main towards recovery. From time to time blood was coughed up in quantities from a teaspoonful to several ounces, until the early part of March when the passive congestion of the posterior part of the lungs abated together with the cough.

About the middle of March the aphasic symptoms appreciably diminished. Consideration of the tests used at the several dates mentioned, together with the treatment then being carried out, shows very well the progress made towards recovery from the commencement of the case up to the time when the patient left Shanghai.

February 7th.—Symptoms—Slight chill recurring every evening at 8 P.M., slight cough. Treatment—Quinine with nitro-muriatic acid and ipecacuanha every four hours.

February 9th.—Apparently quite well. Continue treatment.

February 10th.—Stroke of paralysis at 7 P.M. At 8 P.M. the patient was snoring and hiccoughing violently; right side completely paralysed, left partially so; slight response over left side and extremities to pricking with a pin and tickling of sole; but absolutely no response on right side; no priapism, no muscular twitching. Treatment. Large blister to back of head. Hiccoughing ceased in about half an hour. Midnight. No stertor or hiccoughing, but cannot or will not swallow. Urine passed involuntarily. Totally aphasic; understands when told to put out his tongue, but cannot get the tip past his teeth. Very little deviation of tip. Pupils dilated but equally so; insensible to light. Pulse 98, sharp but compressible. No spasm of paralysed side, nor did this occur subsequently.

February 11th.—6 A.M. No sleep during night. Tendons of left forearm twitching slightly. Blister risen well. Can swallow, and protrudes tongue when told, but he does this latter or puts his left arm in position for the pulse to be felt, in response to every question or request. 12 M. No stool since yesterday afternoon. Treatment, 2 grs. of calomel every hour for six doses; castor oil and turpentine enema. Temperature in right groin 101°. Blister dressed with mercurial ointment. Midnight. Has slept several times. Grunts when he wants bed-pan but usually fails to retain excreta until it is in position. Enema produced two extremely large and fetid stools. Sensibility unaltered. Pulse all day between 60 and 70.

February 12th.—6½ A.M. Considerable tendinous twitching in left forearm. To take 1 gr. calomel every hour, repeat enema and blister to poll. 12 M. Deviation of tongue to right side much more marked. Sensibility and motion in right side unchanged. Less tendinous twitching in left forearm; considerably improved sensibility in left extremities.

February 13th.—6½ A.M. In consultation it was considered advisable to continue the calomel hourly, as there was no sign of salivation. Milk, beef tea, &c., freely. 12 M. Makes a feeble hissing noise in place of grunting when he wants anything. Still protrudes tongue or puts out arm in response to whatever question I ask him. Still slight muscular twitching on left side. His friends have printed the alphabet with some short words and phrases on a card and assure me that he points to what he wants to say; but he won't or can't do it for me. 4 P.M. There is a sensitive spot on internal posterior surface of left calf and a sensitive line along interior of right thigh. Titillation of right sole causes reflex movements of left leg. Friends said that he had looked at his mail letters with interest. Pulse in forenoon 75–80, in afternoon 60–65. Temperature through day slightly above normal.

February 14th.—Referring to the printed card I asked him to put his finger on "bed-pan." He touched "yes" four lines above it. After much hesitation pointed out "O" for "A." Put out his tongue when asked to shake hands. The endeavour to speak produced a hissing noise. Had three fluid stools.

February 15th.—6½ A.M. Three stools since midnight. No sign of salivation. Occasional sleep. To have 5 min. laudanum every four hours, calomel to be continued. Takes bread and milk pap freely. 4 P.M. No sign of salivation, pupils as before. Tongue still coated with creamy fur. No stool. Tickling of right sole produces slight

twitching of muscles of right leg. Slight sensibility all over right thigh and leg. No trace of voluntary motion on right side. Tongue further deflected to right side owing to improvement on left side. Completely aphasic. No appreciable increase in intelligence. 10½ P.M. Stop laudanum, continue calomel. Pulse 82. Temperature 103°.

February 16th.—6½ A.M. Restless night; no stool; urine still passed involuntarily. Coughed up a little blood. Insists upon being frequently raised to a sitting posture. Very flatulent. Pulse 82. Temperature 102.5°. Opens his mouth when he sees the spoon being approached to feed him, but when I ask him whether he will have milk he puts out his tongue. I, intentionally, spilled a little on his chin; he sucked it in with his lips and tongue. 12 M. Pulse 88. Temperature 101° in right axilla, 100° in left. Skin of right lower limb more sensitive; pricking produced reflex movements of the other leg but no motion of right leg. I inserted seton into back of neck. No pain felt, although the blister had seemed to give him much pain. Back of both lungs dull; breathing bronchial; no vesicular murmur. 4 P.M. Pulse 93. Condition unchanged. Urine bright coloured and turbid, sp. gr. 1030, slightly acid; no sugar; no albumen; becomes nearly solid (unconcentrated) when treated with concentrated nitric acid in a deep watch glass; no calcium or magnesian phosphate. 11 P.M. Temperature in axilla 100°. Pulse 105. Respirations 36. No stool.

February 17th.—6½ A.M. Restless night. Has held his urine. No stool. Considerable dyspnoea and cough. No blood in sputa which are now yellow and semi-purulent. Tongue dry, and stiff in its movements. Pulse 96. Temperature 99°. Respirations 34. To have a castor oil and turpentine enema. Calomel stopped as it is evidently doing no good, and seems to turn him against food. He is in a very depressed condition. 12 M. One stool. Tongue soft and moist; has vomited. Pulse soft, 82. Very drowsy. 4 P.M. Expectoration purulent. Constant vomiting. Dyspnoea continues but is not very urgent (absence of the "besoin de respirer.") Pulse 93; very heavy.

February 19th.—Pulse has continued frequent, and breathing oppressed until this morning early. Slept during first part of night. At 8½ A.M. his condition was as follows:—Pulse 88. Temperature 98.4°. Respirations 24. One stool during night. Very hungry. Cries when he sees pictures of his family, and snatched one from my hand when I held it to him upside down. Condition of right leg stationary; right arm still completely paralysed. Put his left hand out to be shaken when he saw me about to leave. Very little suppuration in the seton track. Titillation of right sole causes no movement on either side.

February 21st.—No respiratory sound whatever in the back of lungs. Very copious hæmorrhage in afternoon. Applied mustard poultices. Temperature normal. Pulse 80.

February 22nd.—Cough almost ceased, and faint respiration sounds posteriorly. Decided sensibility all over right arm and leg, and twitching of tibialis anticus muscle upon pricking the skin over ankle joint. Ordered ¼th gr. of strychnia every four hours. 4 P.M. Can feebly extend the four lesser toes on the right side.

February 23rd.—9 A.M. Can slightly flex right great toe; can also slightly abduct the right thigh. Sensation very acute. Condition of right arm unchanged. Respiratory murmur in back of lungs more distinct. Expectoration scanty, just tinged with blood. Pulse 66. 3 P.M. Pulse 64. Drowsy. 10 P.M. Stop strychnia, ¼th grain having been taken altogether.

February 24th.—8½ A.M. Pulse 78. Intelligent. Less power of flexion in foot. Resume strychnia. To have meat and a wineglassful of draught beer. 4 P.M. Pulse 72. He now understands questions asked him; e.g., I saw a bottle of beer on the table and asked whether he had taken bottled beer; he shook his head. He also in answer to my request pointed out on the printed card the words "yes," "no," "milk" and the letter "A," but could not find "beef tea" or "bed-pan." Speech unimproved; but he appears to think that he is articulating distinctly, as his face shows neither disappointment nor impatience as it does when he tries to move his right arm. It is curious to observe his efforts to turn on the stream of nervous influence to his right arm and leg.

February 25th.—9 A.M. Pulse 60. Less power over toes. 4 P.M. Pulse 72. Heavy. Recurrence of hæmoptysis to a considerable extent.

February 26th.—No motion in right arm, but right leg can be slightly flexed at knee and power of abduction is increasing. No further hæmorrhage from lungs.

February 27th.—Can flex, rotate and circumduct right leg; power of flexion weak in toes; can exercise great pressure with foot. Right arm unimproved. No attempt made to speak.

March 8th.—Average of pulse since last note 65. Temperature normal. Distortion of face daily diminishing. He copies correctly with his left hand any writing set before him. Cannot write his own name aright unless it is written down for him to see. He acknowledges that his spelling powers and memory are astray. I asked him to write A. He wrote T, but knew it was wrong and corrected the error on seeing the right letter written. The right arm is still completely powerless. He is now again taking ¼th gr. strychnia thrice daily. The seton was removed on 1st March as the inflammation was very violent.

March 9th.—At my request he whistled "Pop goes the Weasle" but after giving the first few bars correctly, he, evidently unconsciously, mixed up snatches of other songs and incoherent notes; still when corrected he perceived the mistake and recurred for a bar or so to the tune. This experiment was varied several times but with a similar result. He expressed by signs his knowledge of the names and uses of several domestic articles concerning which I questioned him. Pulse 87. Temperature normal. He walks without much difficulty, and stands without support. Since the 25th ult. his eyes have been bright and intelligent and his expression happy, but he cries readily when he sees anything painful to his feelings. He never articulates a sound even by accident. The cerebral lesion is almost certainly, having regard to the above account of his case, softening, dependent upon obliteration of an artery (middle cerebral?). There is nothing abnormal in the heart sounds, except, perhaps, a faint accentuation of the second sound which I should probably hardly have noticed had I not been looking for lesions. His hearing is better on the right side than on the left; on the former he hears the ticking of an English lever watch at 15.6 inches while on the latter he cannot distinguish the sound when more than 8.5 inches off.

He told me his age, 34, by holding up three fingers and then four. He also expressed by signs the meaning of the adjective "bad" but when asked to write it he wrote "long" and then "lon;" for "good" he wrote "lonsu."

March 11th.—Read a simple story to him, he overlooking the book with directions to turn over the leaves when necessary. At first his intelligence proved equal to this test but it soon wavered and was entirely at fault. I asked him to put up three fingers—he did so; to put up four—he put up two; to put up two—he put up three. He seems able, or nearly so, to do an assigned thing once, but then his attention wavers and his will proves unequal to fix it. He cannot tell the hour by a watch; mine showed 11.20. I said—"it is ten minutes past ten?" He made an affirmative sign. "No; half past twelve?" Same sign in response. Asked to point out different hours his fingers wandered hesitatingly over the dial.

March 13th.—To-day, with considerable difficulty and making him imitate the position and movements of my mouth, I got him to articulate "A" and "Ba." He also described by signs the use that scissors are put to.

March 23rd.—Commenced the application of the primary induced current, the positive pole on the cervical vertebrae, the negative in right hand. Continued this daily until the 15th April without appreciable results.

April 24th.—Left for England. About November had another paralytic seizure and was reported as dying.

The opinions expressed in the following extracts from NIEMEYER's and TROUSSEAU's classical works are illustrated by the foregoing case:—

Hæmorrhages occur, preferably, in advanced age, embolisms in individuals of any age. In adolescents the presumption is, therefore, in favour of an embolus rather than of an hæmorrhage. NIEMEYER, *Lehrbuch der Speciellen Pathologie und Therapie*, ii. 197.*

Transmission of pressure to the other hemisphere reveals itself by the occurrence of psychical disturbances which are generally absent in one-sided cerebral lesions. Possibly the aphasia—very frequently though not constantly observed in disease limited to the frontal convolutions and especially in disease limited to the left frontal convolutions—finds a partial explanation in the fact that in the region of the frontal convolutions pressure exerted on one side is easily propagated to the other. *Ibid*, p. 200.†

The forms of aphasia with hemiplegia are usually altogether incurable, though there may occasionally be a slight improvement. It is also important to bear in mind the frequency of their termination by sudden apoplexy. TROUSSEAU, *Clinique Médicale*, t. ii., p. 691.‡

I think we must confess almost complete impotence in dealing with aphasia accompanied by paralysis when not of syphilitic origin The sufferer remains as permanently injured with regard to his understanding as he is with regard to motion in one side of his body. His intelligence will always limp. *Ibid*, p. 694.§

* Hæmorrhagieen kommen doch vorzugswiese im vorgerückten Alter, Embolieen bei Individuen jedes Alters vor; bei jugendlichen Individuen ist daher die Präsumption für eine embolische Gefässverstopfung grösser als für einen Bluterguss.

† Die Fortpflanzung des Drucks auf die andere Hemisphäre sich dadurch zu erkennen gibt, das psychische Störungen eintreten, welche bei einseitigen Erkrankungen der Grosshirnhemisphäre in der Regel fehlen. Möglicherweise findet die Aphasie, welche bei einseitiger Erkrankung der Stirnlappen und auffallenderweise besonders bei einseitiger Erkrankung des linken Stirnlappens sehr häufig (aber nicht constant) beobachtet wird, zum Theil darin ihre Erklärung, dass in der Gegend der Stirnlappen ein auf der einen Seite einwirkender Druck sich leicht auf die andere Seite verbreitet.

‡ Les formes d'aphasie avec hémiplégie sont le plus souvent absolument incurables, à cela près d'une amélioration parfois bien légère. Il est un fait qu'il importe aussi de mettre en relief, c'est la fréquence de la terminaison par apoplexie foudroyante.

§: Pour l'aphasie avec paralysie, lorsqu'elle n'est pas liée à la syphilis, je crois devoir avouer notre impuissance presque absolue L'aphasique reste à jamais frappé dans son entendement, comme il l'est dans la motilité d'un côté de son corps. Il boitera toujours de l'intelligence.

B.—*Hepatic Abscess*.—In my last report the connexion between ulcerative affections of the intestinal canal and hepatic abscess was alluded to as deserving of careful consideration.

There can be but little difference of opinion as to the course to be pursued where the previous history of any particular case together with the local indications lead to the presumption of a single hepatic abscess having to be dealt with, this not being a sequel of dysentery, typhoid fever or of the abuse of stimulants; and those means for evacuating the contents of such an abscess would certainly seem preferable which are least exhausting to an already weakened system. Although in Shanghai a fatal result has invariably followed the operation for hepatic abscess in foreigners, it is certain that the operation is often advisable on the grounds that there is no chance of recovery without operative interference, and that relief from pain together with, usually, a relaxation in the severity of the general symptoms makes the sufferer's last days more endurable.

H. K., a tidewater, aged 23 years, had acute dysentery in August 1873. Previous to this illness he had been of intemperate habits which he had recently abandoned. He was under occasional observation and treatment for obscure hepatic trouble until the middle of November when he came under continuous treatment. At this time the hepatic dulness extended from the sixth interspace to one and a half inches below the costal border in the mammillary line. The left lobe extended 4 inches to the left of the mesial line.

From November 19th, the persistently high morning temperature, 100°-102° F., occasional rigors, hectic, local pain and other symptoms were collectively conclusive as to the nature of his illness. There was no constipation or diarrhoea. Urine febrile but not markedly so. Respirations from 26 to 34. Pulse feeble and occasionally almost running. Left lung normal; right, no respiratory sounds between horizontal mammillary line and margin of hepatic dulness. Heart sounds audible in right axilla. The thermal register commences on December 4th, on which date there were urgent signs of collapse, and great pain was felt on the right side.

On December 5th, I opened the abscess by puncture in the 9th interspace, 2 inches posterior to the vertical mammillary line, and a canula, attached to an india-rubber tube 15 feet long, was left in the aperture. The tube, from which as much air as possible had been expelled, was attached to the canula while the matter was in full gush. The amount of pus evacuated could not for this reason be ascertained. The last 6 feet of the tube was immersed in a deep vessel of water, and the access of air was thereby absolutely prevented. Immediately previous to the operation the pulse was at 144, four hours after at 126.

6th.—The sixth intercostal space was more distinct, there was no tenderness over the right hypochondrium where, on the previous day, exquisite and continuous pain had been complained of. A diet of raw minced beef, milk *ad lib.*, and an occasional glass of claret negus was ordered.

On the 14th, percussion showed the liver to extend from the seventh rib to the lower costal border. Up to this date pus mixed with blood had been discharged more or less freely from the tube, but as the discharge now ceased the tube was removed and a handful of oakum was lightly bandaged upon the aperture.

On the 16th, with the tongue brown and hard, there were very rapid variations of the pulse, temperature and respiration, but no pain. A few drops of pus oozed from the puncture on to the oakum dressing, and the changed appearance of the patient indicated rapidly progressive poisoning of his system.

17th.—No further oozing of pus. Very somnolent all day.

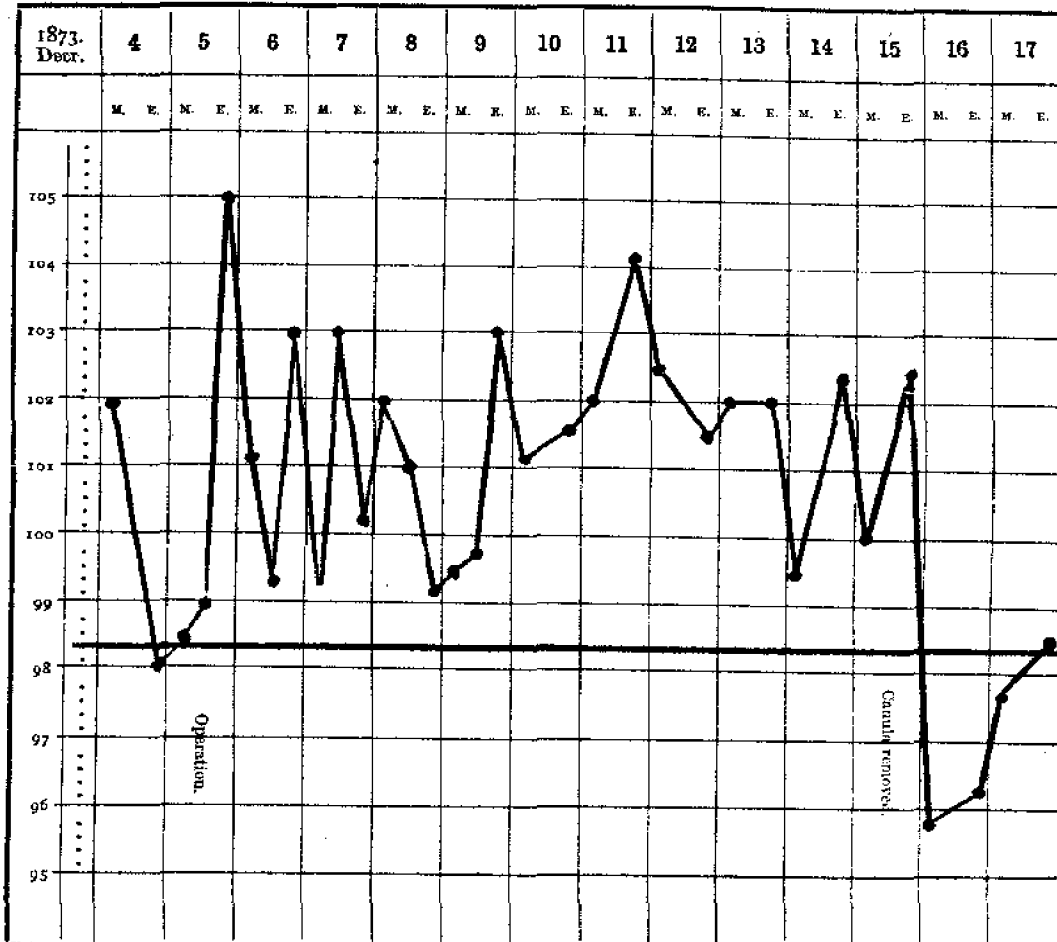
18th.—Delirious. Large stool passed. More violent in temper than usual. Flung a chair across the room in one of his fits of passion.

19th.—Delirious through the night and up to 10 A.M., when he became insensible, but groaned on pressure being made over a spot corresponding to the lower costal margin in the nipple line.

20th.—Continued insensible until 7.50 A.M., when he died.

At the post-mortem, performed three hours after death, the local appearances were as follow:—The liver was increased one third beyond the natural size and the increase was especially noticeable in the left lobe. The abscess was situated in the posterior inferior portion of the right lobe, and at its most dependent part it approached within one and a half inches of the surface of the liver. The track of the puncture through the liver substance showed no tendency towards closing, and without this guide the organ might have been sliced to pieces before the abscess would have been hit upon. It was small, multilocular, altogether capable of containing between five and six ounces, its walls being soft and easily broken down and exhibiting no evidence of plastic inflammation. The blood in the inferior vena cava was largely mixed with pus, brought to it through the right hepatic vein, a large branch of which on the abscess wall was eroded in three or four places. There were no secondary abscesses observed, and there were no indications either at the post-mortem or during life of the existence of disease in other organs.

Appended is the temperature chart for the period between the operation and death :—



C.—*Thoracic Aneurism*.—In the following case the diagnosis was necessarily imperfect during the sufferer's life, owing to the masking of the physical signs of the aneurism which actually caused death, by the more marked signs of a more extensive lesion.

A.B., formerly a master mariner but long engaged in business on shore, had led a hard-working and abstemious life for about 15 years in China. For the last 3 or 4 months he had suffered from what he supposed to be spasmodic asthma, and finding the attacks increasing in frequency and severity he applied for advice. There was no history of rheumatism, intermittent fever or syphilis.

Examination disclosed a loud, prolonged, blowing murmur, most distinct with the systole but running into the diastole. In front, it was best heard in front of the second costal cartilage on the left side; behind, immediately to the left of the spinal column between the posterior margin of the scapula and the transverse process of the fourth dorsal vertebra. The murmur was also very audible over the middle of the sternum and apex of the heart, and more or less so over the entire chest.

The patient had a most distressing aneurismal cough.

Eight grain doses of iodide of potassium were ordered to be taken three times daily. This was persisted in for six weeks without any perceptible effect. The paroxysms of dyspnoea were slightly relieved by large doses of chloral hydrate, but the difficulty of breathing became, towards the close of the case, so serious as to require for its moderation the frequent inhalation of diluted chloroform. At this period, also, a marked insufficiency in the respiratory

act of the left lung was noticed. The appearances in the left pulmonary artery after death sufficiently explained this peculiarity.

Belladonna was, from time to time, applied to the præcordia with, as might be expected from the gravity of the symptoms, but slight relief. During the last two days of life the sputa were tinged with blood. Death occurred exactly two months after the patient sought advice.

At the post-mortem, performed four hours after death, the following appearances were noted:—The body was fairly nourished. Rigor mortis well marked. No mapping on chest. Profuse escape of serous fluid on making incision into thorax. The pericardium contained about eight ounces of fluid. The heart was considerably enlarged and covered with fat, which also dipped down amongst the fibres. The wall of the left ventricle was much thinned, being reduced near the apex to a few lines. The mitral and aortic valves were largely dilated, admitting three fingers without difficulty. The aorta, from its origin to the innominate, was the seat of a fusiform dilatation, and its wall was much thinned immediately above the pericardial reflexion. There was no evidence of the vessel having given way. To the left and a little posteriorly a dissecting aneurism of the left pulmonary artery was disclosed, close to the root of the lung. The internal arterial coat was cleanly separated from the middle for rather more than an inch, and the blood had escaped into the chest through several minute openings in the middle and external coats.

In this case there were no signs observable to indicate the more obscure arterial mischief. The aortic murmur by its loudness and duration completely masked the pulmonary sound, and the disease it evidenced sufficiently accounted for the respiratory and circulatory trouble.

D.—*Typhoid fever with profuse hæmorrhage at end of second week*:—E. F., a delicate man, aged about 34, was seized on the 21st September 1873 with violent diarrhœa which he neglected for two days. On the 23rd the passages were constant, and of unmistakably typhoid character. Morning temperature 101.2° F., evening, 103° F., rising on the following morning to 103.4°. He was put on an exclusively milk diet, and the rectum was kept full of starch containing half a drachm of laudanum to each pint. Slight traces of blood were found from time to time until the 13th day, the treatment meanwhile consisting of small doses of quinine with nitro-muriatic acid. The temperature was unusually low, not rising beyond 100.2° between the 8th and the 15th day; but it was curious to observe that throughout this second week the evening temperature (5 P.M.) was, with the exception of one day, 1° F. below the morning temperature. From the 13th to the 17th day the discharges consisted almost exclusively of blood, and on the 14th and 15th days there were two large and sudden hæmorrhages, which left the patient blanched and much exhausted.

Immediately after the occurrence of the first hæmorrhage, turpentine in 10 minim doses was administered every second hour, and turpentine fomentations were kept applied to the abdomen. As the treatment had no effect in checking the hæmorrhage, which on the 16th day was still continuing though without violent gushes, I ordered a small dose of castor oil with laudanum, followed in a few hours by 5 grains of ipecacuanha. The latter though causing much nausea was retained, and was repeated every 3 hours. On the 17th day the passages, though still bloody, contained a fair proportion of fecal matter, and improvement in this respect continued steadily to the night of the 20th day, when after a profuse sweating, blood disappeared altogether, and two large fecal evacuations were passed during the following 12 hours. Convalescence was soon established, but the administration of ipecacuanha in diminishing doses was maintained for ten days, followed by a course of quinine and iron.

The following articles from a source not very generally accessible will be read with interest, as supplementing the experience of local practitioners in the treatment of "pernicious" remittent fever, and of internal aneurisms.

On "Febris Intermittens Perniciosa." A discourse delivered before the Berlin Medical Society on the 30th April, 1873, by Prof. HENOCH.

My present communication has reference to a little girl 9 years old who previously, with the exception of scarlet fever and isolated catarrhs, had been perfectly healthy. On the 26th May, 1871, she rose at 9 in the morning, and an hour later began to complain of double vision. This was the first circumstance which disquieted the parents; soon afterwards complaints were made of cold hands which were also cold to the touch. Now began a series of psychological disturbances; the child ceased to recognise those who surrounded her, mistook the persons of her relatives, and after some hours a convulsive seizure occurred, which, from the parents' description, was epileptiform. This condition, which was succeeded by coma, lasted for one hour, sleep then came on, and the child awakened with a slight headache, being then (apparently) well. The entire fit lasted an hour and a half. There was no trace of epilepsy in any part of the family, nor had the child ever suffered from it; it was necessary therefore to suppose some other condition. First of all the possibility of an indigestion offered itself, though this was denied by the parents. I had

even then a suspicion that an intermittent might be in the field, because the family resided on the Schöneberg banks where malarious diseases were of no rare occurrence. The following day passed perfectly well as also the forenoon of the 28th May; at 4 o'clock in the afternoon however a similar condition again presented itself. I was myself present when the child began to speak deliriously; quite suddenly she lost knowledge of the people about her or confused them one with the other, the hands became cool, and complaint of dizziness and double vision was made by the child in her lucid intervals, which were perceptible. As I was unable to remain longer present I directed that I should be sent for should she appear to get worse. This occurred after an hour; a marked convulsive seizure had taken place, and I found a complete picture of an epileptiform paroxysm. I thought that, as on the first occasion, this would be over in an hour, but I deceived myself, for when I saw her again at 6 o'clock the convulsions continued unchanged; cyanosis had already appeared, the pulse was very weak, and I said to myself that most probably death would result in a short time from asphyxia. I at once tried compression of the carotids, from which I expected to see some rapid and conspicuous effect. It had nevertheless absolutely no effect, the asphyxia increased, and I felt convinced that only two means remained which could take effect, either chloroform or a morphia injection. I do not deny that I had some anxiety about chloroform in this instance; cyanosis was already far advanced, and we all know that in paroxysms chloroform is a double-edged sword, that while in one case it has a very favourable effect, in another it not only does not prevent death, but accelerates it very much. I therefore injected $\frac{1}{2}$ gr. of morphia. Immediately after this my colleague Herr KLAAREN, who had been summoned in urgent haste, arrived in the chamber. He suggested to me to administer chloroform also nevertheless. This was therefore done immediately after the morphia injection, and I cannot deny that the first inspirations sufficed to stop the convulsions. The child became tranquil, the cyanosis disappeared, a peaceful sleep supervened which lasted from 7 P.M. to 5 A.M., and the child woke up well.

I thought that surely I was face to face with an intermittent, and therefore I prescribed quinine. As it is notorious that the second, or at farthest the third attack of a pernicious intermittent is fatal, I gave it in large doses—5 grains every 3 hours—so that on the first day 25 grains were taken; on the second day 3 grains were administered every second hour, and on the following days 2 grains, so that during the first 8 days after the attack about 100 grains of quinine were taken. The result was that there was no recurrence of the seizure; only on the 30th May at 1 P.M. the child had headache and dizziness and began to tremble. This condition lasted only 20 minutes and since that time the attacks have shown no sign of recurring.* I therefore believe that I have in fact a right to describe these attacks as a pernicious intermittent, and I am moreover confirmed in this by the fact that a couple of days later, in another quarter of the city, a child came to me in whom it was certainly only the first attack which was attended by such violent convulsions; the second shewed itself in a milder form, and immediately yielded to quinine.

It is a well known matter of fact that among children intermittents not infrequently announce themselves by convulsions, generally only in the first attacks, but clearly the case here discussed by us is different, inasmuch as no symptom of intermittent was present except the coldness of the hands. Every other phenomenon was wanting; the whole fell under the pattern of epileptic attacks, and the second seizure certainly seemed to be about to produce death by apoplexy.

It is of course not at all easy to form an idea how such occurrences were brought about, yet I believe that a clue to the matter is obtainable from recent researches. We know that epileptiform fits can be induced by anæmia of the brain, and we know further that in intermittent the first stage certainly begins with a general spasm of the arteries, which first manifests itself in the vessels of the skin and muscles, and is followed by a small, convulsive, rapid pulse, sense of cold, and later by muscular tremblings. It is reasonable to go a step further—namely that if spasm invades the cerebral arteries, cerebral symptoms of the kind described would be produced. We know that moreover psychological disturbances of the kind indicated can be brought about by closure of arteries, as for example, sclerosis of the small cerebral arteries begets confusion of thought. In this case we see the production through spasm of the cerebral arteries, first of sensorial symptoms—double vision, then of psychological symptoms—confusion of the identity of persons, and then, as the result of a more complete capillary anæmia—epileptiform convulsions. It is from this point of view that we must consider the treatment. Inasmuch as I regarded the cause to be arterial spasm, to remove this it was necessary to restore the blood circulation in the brain.

It was unknown to me at the time that morphia injections had long ago been used in epileptic seizures, and I adopted this treatment in a desperate frame of mind as I anticipated death. I have however since read that this had

* Only for some weeks in last May, and consequently after the expiration of a year, there was, according to the parents' account, a transient twitching observable during sleep. Quinine was again administered, and so far no new attack has occurred. I cannot however conceal that this intermediate attack is well suited to throw doubt upon the diagnosis originally made.

been used long before, but I also desire to speak in support of it. As to the chloroform it is evident that here it did good service, but I cannot deny that the danger of chloroform administration in such cases must be considered, and that not every case will turn out so fortunately as this, where moreover there was a combination of both means.

The child now, after I have observed her through an entire year, has continued perfectly well, and there is no trace of brain disturbance discernible.

The arterial spasm to which I before referred, and which I placed at the foundation of the phenomena, can, as is well known to you, occur in any fever, and thus are explained the multitude of convulsive paroxysms which we observe, especially amongst children in the course of many acute diseases. At the outset of pneumonia, pleurisy, and of very many of the acute exanthemata, measles, scarlet fever, &c., we by no means rarely see the disease introduced by one convulsive seizure or more. I have even seen such paroxysms attending a common quinsy, and I have accidentally found a like case described in a French dissertation. For certain cases, namely for the acute exanthemata, a virulent condition of the blood is certainly made answerable as the cause of such spasms, but this is not demonstrated, and then these intercurrent convulsions present themselves also in many other diseases. I therefore believe that we must explain them rather by a condition of arterial spasm which occurs along with the fever. I am confirmed in this opinion by an occurrence which I observed not long ago in the case of a colleague's child. It had scarlet fever, on the second day of the eruption the temperature was 104° F., and the pulse 160. It suddenly became tremulous, faint and pale, was convulsed, lost consciousness and at the same moment the eruption vanished. The convulsions, however, did not reach a very high pitch, the entire was over in half an hour, and with the return of consciousness the redness established itself again. I do not think that this case can be explained otherwise than by arterial spasm which had attacked the cerebral arteries just as it did those of the skin.—*Berliner klinische Wochenschrift*, 30 Juni 1873.

Cure of Aneurism of the Abdominal Aorta, by Professor WOLFF M.D.

A gentleman in the 60th year of his age, without any apoplectic tendency, was seized with a fit two years ago, which was followed by right hemiplegia, but this was within some months so far removed as to admit of his return to business. There however remained stomach troubles in the form of gastrodynia, probably due to the too early resumption of the fatiguing work of the desk.

At 9 in the morning of the 7th April there suddenly occurred such a violent attack of hæmatemesis that a swoon of half an hour's duration followed it. The quantity of blood vomited (the occurrence took place in his office) amounted to the full of a large spittoon. A few hours later Dr. HILDEBRAND, the Sanitary inspector found the patient lying in bed, pale, exhausted, and with a small, compressible pulse of 72 beats. The gastric region was free from pain, and not swollen; below it, following the course of the aorta, a strong pulsation was observable extending in length at least one and a half inches, and in breadth one inch, directed rather to the left than to the right side of the *linea alba*. In consequence of this discovery the supposition arose that the violent and sudden bleeding from the stomach was caused by a corresponding alteration of one of the branches of the gastric arteries. As to the duration of the malady, and as to the presence of a simple gastric lesion, it was not possible to give an opinion, as investigation was made on that day for the first time. *Liquor ferri perchloridi* in a suitable medium, ice bladders to the epigastrium, the ingestion of bits of ice, cold acid drinks, and cool, fluid nourishment were ordered. In spite of this the hæmorrhage recurred on the 8th and 9th, nominally to a smaller extent than on the first occasion, yet in such quantity as to produce almost complete exhaustion, the evacuations were passed involuntarily, and the power of swallowing was nearly abolished. The frequency of the hardly perceptible pulse had risen to 82.

I saw the patient for the first time on the 11th April, and agreed with my colleague as to the continuation of the treatment as before, merely with the substitution for the *liquor ferri perchloridi* (since this had on one occasion produced vomiting) of a solution of tannic acid, and to combine with the daily and nightly continued application of ice to the mesogastrium a subcutaneous injection of a solution of the extract of ergot in accordance with LANGENBECK'S practice. In each injection, which was practised morning and evening, a dose of one decigramme of the extract was administered. Nevertheless on the 13th hæmatemesis occurred again by which about 6 ounces of fresh, light red, very rapidly coagulating blood was evacuated. Naturally, exhaustion again came on; the small, compressible, feeble pulse became irregular, and the apathy of the patient increased. In spite of this almost hopeless condition the treatment was continued, and proved so successful that no further occurrence of bleeding took place, the pulse improved, and the hitherto insensible patient gave signs of slight pain from the injections. On the 17th there was a diminution noticeable in the pulsation of the aneurismal tumour, although it gave no indication of any diminution in its extent as regards length and breadth. Deglutition was easier, and therefore the ingestion of fluid nutriment was facilitated. The administration of tannin solution was now diminished, and on the 20th was stopped. On the other hand the applications of ice were kept

up by day and night, and the ergotin injection was continued twice daily in undiminished quantity. Strength gradually increased; the patient became able to put out his tongue, and to say a few words. To be sure recovery made very slow progress, for obviously nourishment could be administered only in a very cautious manner. Milk and meat broth which by degrees was made stronger, and later was prepared with yolk of egg, were the only aliments. On account of the greater diminution of the pulsation the injections from the 22nd were practised only once daily, and from the 26th only every second day. The ice applications, although they were very burdensome to the increasingly sensitive patient were for safety's sake still continued. On the 1st May no abnormal pulsation could be detected in the abdominal aorta; moreover the extent of the vessel as to length and breadth might be said to be normal. In this double respect no difference was distinguishable between the upper and lower part of the artery. The injection of the ergotin solution was now stopped, the application of ice bladders was continued in a modified form, so that they were laid on twice in the course of the day, each time for two hours. A simple solution of extract of cinchona was ordered as a tonic. The patient's recovery proceeded steadily but very slowly. The evacuations became controllable, the appetite which by preference was directed towards fluids, milk and meat broth, increased in the most satisfactory manner, the pulse improved, and fixed itself at 64, the extremely lowered temperature rose, and sleep became peaceful and refreshing. The patient, who was more and more able to express himself regarding his feelings, became free from pain, and was able on the 22nd May, with, of course, assistance, to leave his bed for the first time, and to spend some hours in a sitting posture.

The deduction from this case, which was undertaken in apparently hopeless circumstances, is that although a suitable share must be adjudged to the energetic and long continued applications of ice, the cure must indisputably be for the most part ascribed to the administration of the extract of ergot in the form of subcutaneous injections, and it furnishes a further and valuable contribution to our experience as to the influence of this drug upon the tone of the blood vessels.—*Ibid*, 6 Juli, 1873.
