THE SAMARKAND OUTBREAK OF PLAGUE.

News, evidently of a confirmatory character, has been received in St. Petersburg that plague has appeared in the Iskander region of the Samarkand district. Although it is declared by Reuter's telegrams "that the district has been declared to be suspected" merely, the Russian Government have already despatched 30 doctors and 10 lady doctors to the district. It is improbable that they would have sent so large a staff had the information been based on suspicion merely, and it may be almost taken for granted that plague is actually present there.

The Iskander district is some 300 miles northwards from the Hindu Kush Mountains, from which it is separated by Bokara and the lofty range of the Alai Tagh. It is difficult to conceive how the plague can have spread thence from the Indian centre; there is little communication between Samarkand and India. Moreover, we have had no information that plague has existed in the Russian province of Bokara, which intervenes between the infected region and the Indian frontier. The nearest point in India where plague has appeared is some 700 miles distant from Samarkand as the crow flies. Jullundur, in the Punjab, and the Hill States of Kumaon and Ghurwal, are the regions furthest north in India in which plague has been reported, and between these and the Samarkand district the Kashmir and the Chitral district. In neither of these has plague been met with recently, and it would seem improbable that plague reached Samarkand from India directly.

PLAGUE CASE REPORTED IN WARSAW.

From Warsaw there is a report to hand that a woman, aged 56, died in the Infant Jesus Hospital, and that medical opinion ascribes her death to plague. This may or may not be the case, but it is not easy to understand the meaning of the further announcement is that "the physicians have decided that it was a case of Siberian plague." This is the first statement we have heard that there is such a disease as "Siberian plague." We are acquainted with the disease "plague," and if it exists in Siberia in endemic form, it is not generally understood that such is the case.

THE GENERAL OUTLOOK.

The death of the nursing sister has, it may be hoped, closed the history of the plague outbreak in Vienna, but the outlook at the present moment in regard to this dread disease is not encouraging. At the present moment it is known to exist in an epidemic form in China, and in India, and at Samarkand cases have occurred; if, in addition to these, we have to add Warsaw to the list, it may be justly said that we are threatened with a widely diffused scourge which may possibly gain a footing in Eastern Europe.

ROYAL COLLEGE OF PHYSICIANS.

The ordinary quarterly comitia of the College was held on Thursday, October 27th, Sir S. WILKS, Bart., F.R.S., President, in the chair.

The PRESIDENT commenced by referring to some of the outside duties which fell to his lot in his official capacity, and of which the Fellows had little or no knowledge. Conjointly with the President of the College of Surgeons he had to award the Gilbert Blane medals open to naval surgeons for the best reports during the year, the reports including not only clinical cases, but a report on the state of the ship and also on the locality in which she had been stationed. Sir Gilbert Blane, who founded the medals, had been a former President of the College. In virtue of his office he was one of the trustees of the British Museum, founded by Sir Hans Sloane, a former President. He was likewise a trustee by the same right of the Tancred Scholarships, and he gave an interesting account of his visit to the home of Christopher Tancred in Yorkshire. The President also spoke of his visit to Liverpool to be present at the opening of the new laboratories; it was a public recognition, for the whole town took part in it, and marked the establishment of a new system in medicine in which the true positive scientific method had now been adopted. After a reference to the recent visit of

Professor Virchow to London to deliver the Huxley Lecture, he announced that the Jenks Scholarship had been awarded to William Hardy Fleetwood, of Epsom College.

Messrs. R. H. Crowley, M.D., W. J. Fenton, M.B., and C. H. J. Lockyer, M.B., were admitted Members. The licence was granted to 120 gentlemen, of whom 67 came under the five years' curriculum, and only 1 under the old regulations before 1884.

A communication respecting the Chelsea Physic Garden was received from the Charity Commissioners, and a Committee consisting of Drs. Hensley, Brunton, and Allchin was appointed to consider the scheme of the Commissioners when received.

A communication was received from the London County Council respecting the notification of infectious puerperal diseases; this was referred to a Committee consisting of Dr. Payne, Sir J. Williams, Drs. Champneys, Cullingworth, and Tatham, and the President was authorised to communicate the report to the Council without waiting for a College meeting.

A communication was received from the Council of the Society of Arts respecting the next award of the Swiney Prize, which is given every five years for the best work on Jurisprudence and on Medical Jurisprudence alternately. The communication suggested that the question of whether this was a fair division of the subject should be reopened. The President, Senior Censor, Treasurer, Registrar, and Dr. Pavy were appointed a Committee to meet the Committee appointed by the Society of Arts to consider this matter and to make the award.

A communication from the Colonial Office respecting the communicability of leprosy was referred to a Committee consisting of Sir D. Duckworth, Drs. R. Liveing, Payne, Hebb, Heron, and J. Anderson, with power to confer with others not belonging to the College.

The audited accounts for the year and the quarterly report of the Finance Committee were received and adopted.

A report from the Bisset Hawkins Memorial Committee was received, submitting casts of the dies for the medal, and announcing that the first award would be made in July next; the report was adopted.

A report from the Committee of Management was received and adopted, and Dr. Frederick Taylor was elected a member in place of Dr. Ord, who did not wish to be re-elected.

The quarterly report of the Laboratories Committee was received and adopted, and Dr. Pye-Smith was re-elected a member of the Committee.

The quarterly report of the Examiners for the Licence was received and adopted, and votes of thanks were given to the donors of books during the past quarter.

AN OUTBREAK OF FOOD POISONING:

BEING A REPORT ON THIRTY-FIVE CASES OF VEAL-PIE POISONING OCCURRING IN CHADDERTON.

BY
PAUL BOWES, M.D., and HAROLD ASHTON, L.R.C.P. & S.Ed., Medical Officer of Health for Chadderton.

ON Thursday, July 28th, 1898, a confectioner made 268 pies, of which 160 were of veal and 108 of pork. The veal pies were sold on the Thursday night, Friday, and Saturday. Of those who partook of the veal pies, 35 were made ill, and 3 died. One of the sufferers ate a pie on Thursday, 5 on Friday, 28 on Saturday, and 1 on Sunday. All those who were seriously ill ate their pies on the Saturday or Sunday. Nearly all the patients were seriously ill. The cases bore a striking resemblance to one another, and from those reported in full an idea may be formed of all.

In addition to the 35 cases commented on here, 12 or more cases occurred in the neighbouring town of Oldham, causing 1 death, the same batch of pies being the cause.

The table on p. 1457 gives the cases in short. It will be noticed that the "incubation period" between eating the pies

Case.	Sex.	Age.	Amount of Pie Eaten.	Time and Date of Eating.	Onset of Symptoms.	Duration of Symptoms.	Temperature when first Seen.	Remarks.
1	F	50	Whole	10.0 P.M., July 29	9.0 A.M., July 30	5 days	Slight fever	Herpes; diarrhoea 6 days.
2	M	17	"	8.0 P.M., " 30	11.0 A.M., " 30	11 "	"	Case described in full.
3	M	48	"	10.0 P.M., " 30	" " "	5 "	103.6°	Herpes labialis; drowsiness very marked for 3 days; no vomiting; motions said to be like soapsuds, very frothy.
4	M	45	"	11.0 P.M., " 30	6.30 A.M., " 31	48 hours (died)	101.0°	Described in full.
5	F	43	"	" " "	7.0 A.M., " 31	3 days	101.0°	Improved quickly; diarrhoea 7 days.
6	F	21	Whole	1.30 P.M., " 30	6.0 P.M., " 30	3 days (died)	102.0°	Described in full.
7	F	23	"	" " "	1.0 A.M., " 31	11 days	102.0°	Motions passed involuntarily.
8	F	16	"	" " "	1.0 P.M., " 31	2 "	—	Very mild.
9	F	14	"	12.30 P.M., " 29	7.0 A.M., " 30	1 "	—	Very slight.
10	F	58	Half	10.30 P.M., " 30	5.0 A.M., " 31	5 "	100.0°	Herpes.
11	F	17	"	" " "	8.0 P.M., " 31	6 "	101.0°	Headache.
12	M	44	Whole	1.0 P.M., " 30	1.0 A.M., " 31	5 "	100.0°	No vomiting; mild case.
13	M	12	"	10.0 P.M., " 30	10.0 P.M., " 31	3 "	101.0°	First time purged 32 hours after taking pie; very drowsy; persistent vomiting.
14	M	19	Half	" " "	Noon " 31	7 "	Subnormal	
15	M	50	large pie	10.30 P.M., " 30	11.0 A.M., " 31	4 "	100.0°	
16	F	24	"	" " "	5.0 A.M., " 31	(died)	Subnormal 3rd day	Described in full.
17	M	34	Whole	Noon " 30	10.0 A.M., " 31	2 days	—	Mild case.
18	F	4	"	" " "	" " "	4 "	—	"
19	F	2	"	" " "	9.30 P.M., " 30	5 "	101.0°	Blood in motion.
20	F	61	Whole	" " "	1.0 A.M., " 31	9 "	Normal after 1st day	
21	F	45	"	10.0 P.M., " 29	3.0 A.M., " 31	5 "	—	Mild case.
22	F	32	Whole	11.0 P.M., " 30	5.0 A.M., " 31	7 "	—	Herpes.
23	M	31	"	12.30 A.M., " 30	7.0 P.M., " 30	7 days ill; 3 days diarrhoea	101.0°	Pain very severe in abdomen and back; tender spot above umbilicus.
24	F	15	"	8.30 P.M., " 31	5.0 A.M., Aug. 1	7 days	104.5°	Described in full.
25	F	44	A portion	10.30 A.M., " 30	Evening, July 30	3 "	102.0°	Was recovering from diarrhoea before she ate the pie.
26	F	37	Whole	9.0 P.M., " 30	2.0 A.M., " 31	6 "	103.0°	Described in full.
27	M	26	2 pies	10.0 A.M., " 30	5.0 P.M., " 30	5 "	103.5°	Very severe attack.
28	F	13	Half	Evening " 29	Morning, " 30	6 "	100.0°	A little herpes about lips.
29	F	44	"	" " "	" " "	" "	—	Mother of Case 28; not so severe as Case 28.
30	M	Adult	"	11.30 P.M., " 30	" " "	" "	—	Only slightly indisposed.
31	M	30	Whole	10.0 A.M., " 30	1.30 A.M., " 31	—	—	Very ill.
32	F	Adult	Half	6.0 P.M., " 30	Morning, " 31	—	—	Vomiting, purging, and great pain.
33	F	"	"	" " "	" " "	—	—	Daughter of Case 32.
34	F	Adult	Portion	9.0 P.M., " 28	" " "	—	—	A mild case but vomiting and purging.
35	F	Girl	Half	" " "	5.0 A.M., " 31	5 days	—	Herpes.

and the onset of the symptoms was fairly definite, from six to eight hours in most cases. In some cases the onset may have been delayed by sleep. The shortest "incubation period" was three hours (No. 21), and the longest twenty-nine hours (a mild case, No. 21).

The first of the series came under our notice on July 31st. Most of the cases considered they were suffering from ordinary diarrhoea at first, and did not send until Monday, August 1st. In these cases, as in subsequent ones, there were some well-marked symptoms, and some not so definite.

Gastro-intestinal.—In all cases observed diarrhoea was a prominent symptom; in some of the milder cases only a few motions (very loose) were passed in the course of the illness; in the other extreme there was almost a constant evacuation of the bowels, from the onset to the death or convalescence of the patient. Accompanying the diarrhoea there was considerable griping in the abdomen, but only in a very few of the cases was the pain said to be very severe. The fæces were as a rule watery. They were grass-green at the commencement, but soon became very dark-green. In most cases the evacuations were voluntary, but many of the worst cases lost entire control of the sphincters. In some exceptional cases blood was passed in small quantities or blood-stained slime. In one case the stools were said to have a frothy, soapsud-like appearance. There was no retraction or collapse of the abdominal walls. Vomiting occurred in all but two—at first yellowish-green, afterwards, if persistent, merely the contents of the stomach. Intense thirst was complained of. One patient, who had cholera nostras in America and Canada, said the most notable difference between his previous illnesses and this one was the intense thirst, which was not present in the cholera attack. The tongue was dry, dark-brown, thickly furred in the severe cases, furred but moist in the less severe. Herpes of the lips was fairly common, and in one or two a transient rash was present, with in some cases subsequent desquamation of the cuticle.

Temperature.—In all adult cases but one shivering was a most marked symptom, and whenever seen in the early stages

the temperature was invariably raised. In some cases it bordered on hyperpyrexia; in most it ranged from 100° to 101°.

General Symptoms.—Exhaustion of the heart and general circulation was a most prominent feature. In the severe cases it was extreme, and lividity and coldness of extremities came on rapidly. In the mild cases even, for days afterwards, the patients felt tired and weary.

Nervous Symptoms.—Severe cramp was rare; some complained of pains and stiffness in the calves of the legs, as if they had had cramp. Some had twitching pains in the legs. Headache was not usual. Drowsiness was very marked in at least two cases, but many were restless from exhaustion.

Treatment practically resolved itself into the prevention of collapse. In the worst cases, medicines, effervescing or otherwise, were not retained. A mixture containing aq. sulph. dil., bismuth subnit., liq. morph. mur., and spir. chlorof. agreed well with the milder cases.

CASES.

No. 2.—A. L., aged 17 years, bought a pie on July 29th, and kept it until the morning of July 30th, and then ate it at breakfast (8 A.M.). About 11 A.M. abdominal griping. Purged about noon. Vomited in the evening, very chilly all day, drowsy, and heavy, no headache. When seen on July 31st he was in an apparently typhoid condition. Very sick and vomited everything he swallowed without retching, or heaving fluids when taken, being no sooner swallowed than part returned; patient then rolled over, listless and helpless. Motions liquid, very frequent, and passed unconsciously. Though dull patient, when roused, could answer sensibly. Tongue very dry, dirty brown fur all over, very thick. Pulse very weak and irregular. Extremities gradually becoming colder and more congested about fourth day, tossing about though semiconscious, cheeks becoming livid, when pressed on vessels very slowly refilled. By free stimulation and keeping up bodily warmth slight improvement about sixth day. Vomiting ceased, but purging continued till the eighth day. Tongue then rapidly cleared, leaving surface clean, almost raw looking. Steady convalescence; out of bed on the eleventh day.

No. 4.—W. S., aged 45 years, ate a whole pie at 11 P.M. July 30th. He began to be ill as soon as he got up in the morning, 6.30 A.M. on July 31st. Vomiting and purging every few minutes; complained of having had great pain in the abdomen from the commencement. He had severe retching and leaving before being able to get any of the fluid vomited. Vomit clear and frothy, containing part of the veal of the pie eaten the night before, and this was said to taste very disagreeable on being vomited. Felt chilly and cold. Seen August 1st, 9 A.M. Temperature 101°. Pulse quick, and as the day

went on the pulse began to lose strength. Vomiting and purging unaffected by treatment. Extremities began to get cold, circulation feeble, exhaustion and fatal collapse within forty-eight hours of first symptoms.

No. 6.—L. T., aged 21 years, ate pie at 1 P.M. on July 30th. About 6 P.M. felt shivery. Vomiting commenced about 1 A.M. on July 31st, greenish-yellow in colour; purging severely; quite exhausted, and in considerable pain. Seen August 1st. Temperature over 102°; pulse quick, but fairly regular; tongue thick brown fur very dry. Vomited and purged just as she lay; no help for herself; quite conscious. On August 2nd had several attacks of very hurried breathing, extremities gradually becoming colder; patient exhausted and collapsed, and death took place in that condition.

No. 16.—L. McC., aged 24 years, ate half a pie at 10.30 P.M. on July 30th. Abdominal griping, sick, and purged at 5 A.M. on July 31st; very thirsty; shivering; twitches in legs; motions bloodstained; pupils small; no headache. Seen August 2nd; quite exhausted; face dark and anxious-looking; tired expression. Complained greatly of heat and suffocation, although the room was cool; pulse weak and irregular; vomiting ceased; purging only slight. On August 3rd evidently becoming exhausted rapidly; free stimulation and artificial warmth applied, as temperature on August 2nd and 3rd was subnormal; temperature about 3 P.M. rose to 101°, and patient seemed to rally for a time, only to be followed by a more pronounced collapse, and death took place about 9 P.M. on August 3rd.

We are indebted to Dr. MacSherrrie for the description of the following cases which he attended as *locum tenens* for Dr. Ashton:

No. 24.—L. H., age 15 years. Ate veal pie at 8.30 Sunday evening. At 5 o'clock Monday morning had diarrhoea and vomiting; went to the factory, where she was again sick and purged, and returned home again at 7 A.M. and went to bed. The first vomit contained some pie. First seen at 3 P.M. on Monday. She was extremely flushed. Temperature 104.5°; pulse weak, 130 per minute. Antifebrin with caffeine given, also a sedative mixture. At 8.30 P.M. patient very delirious. Temperature 104°, prostrated, very feeble pulse, tongue covered with a thick black coating. A large dose of castor oil was now given with an antipretic and free use of stimulants. Tuesday, August 2nd, 11 A.M.: Patient has been very delirious; temperature 103.2°; pulse extremely thready, rapid, and feeble. Continued vomiting and diarrhoea; vomit dark-green coloured; stools thin and greenish. 3 P.M. Patient in a low typhoid state with low muttering delirium; teeth covered with sordes. 9 P.M. Patient in state of complete collapse, pulse hardly perceptible, cold extremities, marked pallor. Immediate death was feared. Ether was injected hypodermically; hot-water bottles and hot fomentations, brandy and ammonia by the mouth, and brandy, milk, and beef-tea in enemata. During the night patient was unconscious. Wednesday, August 3rd. Patient slightly improved; conscious but delirious; very low typhoid condition, with much sordes and unpleasant odour from mouth. Temperature 100°. Nutrient enemata and stimulants continued, and salol with bismuth given; also powders of hydrarg. c. cret. and pulv. Doveri. Evening. A little better, but exhaustion still very great. Thursday, August 4th. Steady improvement, but still danger of collapse. Stimulants still very freely used. Still some diarrhoea. In evening a little Benger's food was retained in stomach. Temperature 100°. Friday, August 5th. Patient quite lucid, but still very weak. Tongue and teeth beginning to clear. Pulse much stronger and slower. Saturday, Sunday, and Monday, convalescent. September 5th. Patient still rather weak. The mother of the above had a somewhat similar attack but not so severe. During convalescence she showed signs of mental disturbance of a religious type (from which she soon recovered), and had a profuse rash with subsequent desquamation.

No. 26.—Mrs. M. T. ate a pie at about 9 or 10 o'clock on Saturday evening. On Sunday morning at 2 A.M. began with violent vomiting and diarrhoea. The first vomit contained remains of pie. First seen on Monday morning. She had intense diarrhoea, vomiting, and pain, with very great prostration. Temperature 103°. Tongue thickly furred and dark brown. Pulse rapid and thready. A large dose of castor oil was given, with stimulants, and afterwards an astringent mixture. Tuesday: Continued diarrhoea with great danger of collapse. Temperature 102°. During the next three days the diarrhoea began to abate, but vomiting still bad. On Friday the diarrhoea and vomiting had stopped and the temperature was subnormal, the patient being very prostrate. Monday, August 8th: Patient going on well.

Post-mortem Examination on Case No. 4.—The examination was conducted by Dr. John Hodgson, of Oldham, assisted by Dr. P. Bowes. The body was that of a well-nourished man. The brain contained a rather excessive amount of blood, but was otherwise healthy. The stomach contained green bile-stained fluid. There was no congestion of the lining membrane. The small intestine contained greenish yellowish fluid. There were patches of congestion of the mucous membrane at intervals, becoming more marked and frequent as he descended the intestines. The large intestine contained green fluid, the lining membrane throughout being highly congested. There were patches of decomposition on the outer wall of the large intestine. The lungs showed no disease, but abundant evidence of old pleurisy. The heart was large, fat, and flabby, the mitral valve was thickened and contracted. The liver was fatty. The other organs were healthy.

REPORT OF AN INVESTIGATION INTO THE CAUSE OF THE OUTBREAK, BY DR. H. ASHTON.

The articles used in the manufacture of the pies were: Veal, paste, jelly, seasoning.

1. The *veal* used was obtained from a butcher in Oldham. The baker stated that he paid 8d. per pound for the veal

(boned), put produced no documentary evidence of this. Other parts of the same carcass sold on Friday and Saturday produced no sickness. The calf was killed on Tuesday night, July 26th. It was 11 weeks old.

2. The *paste* was made from flour, lard, and water. The same flour, lard, and seasoning were used for other articles and produced no sickness.

2. The *seasoning* was pepper and salt.

4. The *stock* for the jelly was made by boiling the veal bones, with pig's feet and water, and the same stock was used for the *pork* pies, which were eaten without harm.

The pies were cooked for twenty minutes at a heat of 400° to 500° F., as indicated by a pyrometer. Each pie contained about 1½ ounce of meat and a tablespoonful of jelly, which was poured in when the pies were taken from the oven. The stock was made whilst the pies were cooking. The pies were then placed in the shop.

The bakehouse was very clean and well arranged. There was a gully in the bakehouse, however, leading to a drain and untrapped.

The conclusions arrived at after investigation were as follows: The poison was contained in the veal and jelly only. The poison consisted partly of ptomaines and partly of bacteria; probably the greater part of the symptoms were due to ptomaines, as the period elapsing between the eating of the pie and the onset of symptoms was so short (five to eight hours). The stock for the jelly was right when placed in the pie, but was soon infected by the veal, which was probably the original source of the mischief. Whether the bacteria obtained admittance to the veal before or after cooking it is impossible to say, but in my opinion the temperature attained by the interior of the pies during the operation of cooking was not high enough to destroy bacteria. As veal yields gelatine, and gelatine was also added from the pigs' feet from which the jelly was made, it would be hard to find a better medium for the cultivation of bacteria when they had once been introduced.

As will be seen from the cases, the pies were most virulent on the second and third days after cooking. Those which were eaten on the same day and the first day after cooking seem to have caused little or no ill-effects.

It must be mentioned that practically no one complained of the taste or appearance of the pies, which had no smell whatever. The usual signs of a cold veal or pork pie being over-kept are: 1. The jelly liquefies and the bottom of the pie becomes soft. 2. The meat becomes detached and loose in the paste. 3. A whitish mould appears on the meat which, together with the gravy, may smell sour.

THE PREVENTION OF TUBERCULOSIS.

SIR RICHARD THORNE ON THE CONTROL OF TUBERCULOSIS. SIR RICHARD THORNE, K.C.B., delivered the first of the Harben Lectures for 1898 on November 2nd. The subject of the course is the Administrative Control of Tuberculosis, and he pointed out in the first place that a comparison of the statistics of the periods 1851-60 and 1891-95 showed that deaths from all forms of tuberculous disease had undergone a diminution amounting for all ages to over 36 per cent. The reduction of deaths for all ages from pulmonary consumption was over 45 per cent., and accounted for much of the general reduction, but the diminution in the mortality among infants and children had been far less. The deaths from *tabes mesenterica* showed a diminution of 8.1 per cent. for all ages, but in those of infants under 1 year of age there had been a large increase.

Among the administrative measures which had modified the death-rate from tuberculous disease he gave the first place to those which secured free movement of air and access of sunlight to dwellings. Sanitary works and the draining of the subsoil had also had an important effect. Infection took place in phthisis by means of the air, in *tabes* by the digestive tract. The conveyance of tuberculous infection in certain foods, meat and milk, would account for the fact that the diminution in *tabes* had not corresponded with that which had taken place in phthisis. The facts that the mortality from all forms of tuberculous disease had diminished at the periods of life when meat-eating was most consumed, and that phthisis which was most common in the meat-eating age had undergone a reduction, while the consumption of meat