own day, who, wise men as they are, do not disdain empirical and persuasive remedies when no arm of precision is at hand. Archigenes seems in character to have been a blend not only of several schools of doctrine, but also of several complementary qualities: of theorizing proclivity, yet rational in methods and technically sound in practice. To his clinical insight the fruitful distinction between primary and secondary disorders, and the indication of localizing symptoms, which I have quoted from Aetius, is strong testimony. If, on the one hand, it appears from Galen's respectful criticism, and from other witness, that, after the fashion of the pneumatists, he was in preciosity of language and in sophistical dialectic something of a pedant, yet, on the other hand, he did much to deliver medicine from the cramping influence of the methodist common forms based upon an abstract principle, like the "homoeopathic" formula which in our own day became for a while so dear to that most theoretical of creatures the "practical" man. Nay, if besides he seems to have fallen in with the use of amulets and such like, probably it was a tolerant and humorous observer of the foibles of mankind, and of the magical influences of faith, rather than as a charlatan or a sorcerer.

I have said that to enter upon the poison literature would in this course be impossible, for in its biological and pharmaceutical aspects it would require a lecture for itself alone. Such a chapter may be added to these lectures hereafter; but in conclusion I would indicate the place of Archigenes in this current of medical history. We have seen that Philumenus, in his *Περὶ τῶν ἰσθμίων ὥων καὶ τῶν ἐν αὐτοῖς βοηθημάτων*, drew largely upon him, as he did upon less eminent men of the school of Athenaeus and Soranus; and this not least in respect of poisons and their antidotes. Our tradition of the poison literature, more or less mingled in its course with that of cosmetics, begins with one Apollodorus of Alexandria (c. 300 B.C.); and thence in dark volume it flowed through Nicander, Philinus, Andreas, and that remarkable man, a Herophilean turned empiric—Herakleides of Tarentum. Krateuas, who seems to have worked under the patronage of Mithridates Eupator, is a very important link of this chain.* It is with Krateuas that we enter upon the Attalid and Mithridatic period of this art and mystery on which the *locus classicus* is the twenty-fifth chapter of Pliny's *Natural History*; and so to Dioscorides, to Philumenus, to Aetius who borrowed from Philumenus, and to Galen. Thus at second hand Archigenes became a main source of this sinister lore for the Middle Ages, and for the papal and ducal circles of the Renaissance.

In these lectures, Sir, if I have failed—and with but our present resources we may hardly succeed—to bring the physicians of Rome out of chronological tables and to present them in living portraiture; yet, if, in my subordinate degree, I have made some fair endeavour to illustrate the inner movements and to read the genius of those variously gifted races of whom Roman medicine was engendered—the dreamy Sicilian, the positive and sagacious Greek, the subtle and demonic Oriental—which, blended in Alexandria, inspired the motley players who walked the stage of our art and mystery at the feet of the imperious mistress of the world; if in any fair measure I have done this, my labour and your long-suffering—for which I gratefully thank you—may have been not wholly in vain.

FOUR CASES OF PNEUMONIC PLAGUE.

By H. P. SLEIGH, M.B.,

MEDICAL OFFICER OF HEALTH, SAMFORD RURAL DISTRICT COUNCIL.

Cases of plague in this country are comparatively rare, and although the daily press has given somewhat distorted accounts of the four cases recently occurring in Suffolk, readers of the JOURNAL may find an account of them to be not without interest.

The cases occurred at Freston, some five miles from Ipswich, in the households of two farm labourers. C.'s child, aged 9 years, was taken ill on September 13th and died on the 16th; the mother, aged 40 years, was taken ill on the 21st and died on the 23rd; C., aged 57, was taken ill on the 26th and died on the 29th; and a neighbour, Mrs. P., aged 43 years, who nursed C.'s

wife on the night of the 22nd and 23rd, was taken ill on September 26th and died on the 29th.

True to description, the disease had picked out two very dirty households; and again, of all the people coming into close contact with the patients, only those who had but little respect for hygiene were infected. Three nurses who were unremitting in their attentions to the sick escaped.

The incubation period was definitely five days.

Prodromal symptoms were not well marked. All the patients complained of being "not well" a few hours before the onset of illness; and in one case—that of the child—there was sickness.

The invasion was sudden, and in one case at least the illness was ushered in by a rigor. All complained of severe frontal headache. The features were drawn, the expression vacant, and mental ineptitude was well marked. The temperature was high from the commencement, the thermometer registering 105° in two of the cases and 103° in the other two within a few hours of the onset of the illness, and remained high till within twelve hours of death, when in each case the temperature fell a couple of degrees.

Respiratory System.—Respirations in all four cases were quickened from 30 to 40 per minute. In only one case (Mrs. P.) was there definite lobar pneumonia; in two there were evanescent patches, and in the fourth no signs of pneumonia were detected. The case with definite pneumonia had no expectoration at any time of the illness; the other three had thin dark blood-stained expectoration.

Circulatory System.—The pulse in all cases was feeble and fluttering, and ranged from 120 to 140 per minute.

Digestive System.—The tongue in each case was red at tip and edges, but the dorsum was covered with a thick yellowish fur. In two of the cases there was sickness and diarrhoea.

The spleen in one case at least (Mrs. P.) was enlarged, but no other glandular enlargement was detected.

Nervous System.—In the child there was delirium, but in the others consciousness was unimpaired till the end, and in one case (Mrs. P.) the patient gave thoughtful and intelligent instructions within ten minutes of her death.

Diagnosis.—It was at once recognized that this was a highly contagious disease, so that prompt measures to isolate contacts were adopted. Drs. Brown and Heath, of Ipswich, were asked to see the cases in consultation, and from specimens of sputum and blood taken from the last three cases Dr. Heath ultimately discovered the *Bacillus pestis* in all the specimens, but this was not demonstrated till too late to administer serum treatment.

Investigation as to the cause of the outbreak elicited the fact that a great many rats were dying in the neighbourhood, and on bacteriological investigation many of these, as well as a hare and a cat, were found to have plague. On further investigation it was elicited that five years previously eight persons were similarly attacked near Shotley, and about six miles distant from Freston. Of those eight persons attacked, six died, and I have no doubt, from the reports given me, that they also were plague. These cases occurred about a quarter of a mile from the river Orwell, and at a point exactly opposite to where the larger ships anchor to lighten their cargoes into barges to enable them to proceed up the river to Ipswich. It would be an easy matter for rats to swim ashore from those boats at this point, and it is surely not mere coincidence that rats on the other bank of the river at this point have since been proved bacteriologically to have plague. There certainly has been an undue mortality amongst rats since the occurrence of those eight cases, and it would almost appear as if there has been a chronic condition of plague amongst rats in the district since that time.

There are, however, other possible sources of infection which are under investigation; the results, when complete, will no doubt be made known.

It is now known that other districts in Suffolk have a "rat plague," the cause of which is being investigated alongside with this district.

To prevent the spread of infection stringent measures were adopted. All contacts were quarantined for a period of ten days; in both houses all articles that could not be thoroughly disinfected were burned, the rooms were carefully disinfected, their walls were stripped, and afterwards

* Vide Krateuas, von M. Wellmann, Berlin, 1897.

repapered or distempered. The destruction and disposal of rats over a wide area was undertaken by the sanitary authority, willingly assisted by the public, and this is meanwhile being done methodically and with excellent results.

I am indebted to Dr. Carey of Holbrook for notes on the cases in C.'s family; to Dr. Brown of Ipswich for much valuable advice at the consultation; and to Dr. Heath for his bacteriological examinations.

THE RECENT PLAGUE CASES IN SUFFOLK.

BY
HERBERT H. BROWN, M.D., F.R.C.S.,
IPSWICH.

MUCH interest has been aroused by the recent death of four people from pneumonic plague at the village of Freston, four miles from Ipswich, and the subsequent discovery that the disease is fairly widely spread among rats and other rodents in this part of Suffolk.

On September 13th a little girl of 9, living with her mother, stepfather, and two or three other children in a small cottage at Freston, became ill. Vomiting was the first symptom. On the 14th she was seen by Dr. Carey of Holbrook, to whom I am indebted for notes of this and the succeeding case. At his first visit Dr. Carey found a temperature of 105° but no signs of pneumonia. On the following day, September 15th, bronchial breathing was detected at the base of one lung. She had been delirious during the night before, but not in the day, though rather drowsy. During the following night the cough was somewhat troublesome, and there was vomiting and diarrhoea.

She died on the next day, September 16th. The temperature throughout had been about 105°. She was nursed by her mother, Mrs. C., and was buried on September 20th.

On September 21st Mrs. C., the mother, was taken ill. She got up as usual on that morning, but complained of headache and a feeling of sickness.

Next day, September 22nd, Dr. Carey was sent for. He saw her at 3 p.m. He found a temperature of nearly 105°, rather rapid respiration, and crepitant râles at the bases of both lungs.

During the night of the 22nd there was vomiting and diarrhoea.

On the 23rd she was seen by Dr. Carey at 10 a.m. She was almost pulseless, respiration laboured and gasping. He sent to ask me to see her in consultation with him, but she was already dead when I arrived at about 12 noon. I took away some sputum for bacteriological examination. The sputum was brownish in colour, as though tinged with anchovy sauce, and did not at all resemble ordinary pneumonic sputum.

I gave the sputum to Dr. Heath for examination, who reported that it contained pneumococci and Gram-negative diplobacilli in large numbers.

On the 26th G. C., the husband of the last patient, and Mrs. P., who had nursed her during the night of the 22nd, were both taken ill. Dr. Carey informed me of the occurrence on the 27th, but as I was unable to visit them that evening I asked Dr. Heath to go instead. He saw G. C. and obtained some blood from the ear for examination.

On the 28th I visited both patients in consultation with Dr. Carey and Dr. Sleigh, and took a syringe of blood from the basilic vein of G. C., and fluid from puncturing the pneumonic lung in the case of Mrs. P. This material I gave to Dr. Heath, who made cultures in agar and bouillon and prepared films.

The films, especially those from the pneumonic lung, showed very numerous bacilli, identical with plague bacilli, with the typical bipolar staining, and the cultures in bouillon, the characteristic "stalactite" growth. The cultures and films were at once submitted by Dr. Heath to Professor Sims Woodhead, of Cambridge, who confirmed his diagnosis, and later to Professor Klein and Professor W. G. R. Simpson.

The course of the disease in these two cases was as follows:

G. C., who was a farm labourer, started to work as usual on the morning of September 26th, but complained

of backache and "feeling bad." He attended his wife's funeral on that day and then went to bed.

On September 27th he was seen by Dr. Carey. He was flushed; temperature 103°. He had not vomited, and there were no signs of mischief in the lungs. A nurse was sent from Ipswich on this evening.

On September 28th I saw him with Dr. Carey. He was very flushed and rather drowsy and lethargic, but complained of no pain. On examination of the lungs, I found no dullness or bronchial breathing, but moist crepitant râles over both bases. During the night his temperature was 104° or 105°. He slept at intervals, took nourishment well. He complained of thirst, and of feeling drowsy, but had no pain. There was slight cough and some expectoration. Pulse about 120. Respirations from 30 to 40. He perspired freely. There was no diarrhoea or vomiting.

On the 29th his condition was much the same, temperature a little lower. There was no loss of consciousness or marked change until three minutes before death, which took place at 7 p.m.

Mrs. P., the neighbour who had nursed Mrs. C., was taken ill on the morning of the 26th.

In her case pneumonic symptoms were prominent from the first. She had a high temperature from the commencement, and on the 27th there were obvious signs of pneumonia in the left lung.

She was treated by Dr. Sleigh, of Holbrook.

A nurse from Ipswich took charge of her and G. C. on the night of the 27th. She complained of severe pain on the left side of the chest, near the angle of the scapula. The left side of the face was very flushed. She lay generally on her right side. She coughed very little during the night, and there was no expectoration. Temperature from 103° to 104° F. No delirium; no diarrhoea or vomiting.

On the 28th I saw her with Dr. Sleigh at 11.30 a.m. The respiration was about 50, laboured and rattling; pulse 130, very compressible. Face livid. There was dullness to percussion over the left back, as high as spine of scapula, and bronchial breathing. There was also dullness and signs of consolidation at the extreme right base.

During the night of the 28th she complained of severe pain in the left side. Vomiting and diarrhoea came on at very frequent intervals till death, which took place on the morning of the 29th.

There had been no loss of consciousness and no delirium. Some cough, but not much expectoration. Temperature 105.6° F. before death.

In all four cases death occurred after a short illness, in only one as late as the fourth day. In all cases there was definite evidence of lung congestion, although in only one was there extensive pneumonic consolidation; and in all except one there was diarrhoea and vomiting before death. The temperature in all was high, from 103° to 105° F. or over, and they were conscious throughout, almost up to the moment of death.

The characteristic bipolar-staining bacilli were found in the sputum of the second case, in the blood of G. C., and in the fluid from the lung of Mrs. P. In this last they were exceedingly numerous.

When the nature of the disease was determined, all who had been in contact were isolated, and the cottages thoroughly disinfected. There have been no fresh cases since.

As numerous rats and some hares and rabbits had been dying in the neighbourhood, two rats and a hare were sent to the Local Government Board, and submitted to Professor Klein for examination. In each the presence of plague bacilli was proved.

Many rats and other animals have been since examined by Dr. Heath and others, and it is evident that the infection among these animals is fairly widely spread; but owing to the energetic measures which have been and are still being taken, it is hoped that the disease may be stamped out.

No case of infection among rats has been found within the borough of Ipswich.

The late Dr. William Thomas Law, of Bournemouth, left estate valued at £8,950 gross, with net personalty £8,536.