than the use of the galvano-cautery, which, indeed, frequently appears to aggravate the complaint.

Scarification of the Larynx as a Substitute for Tracheotomy.—In all cases of laryngeal obstruction it is important, of course, to avert the necessity for tracheotomy, to which, even under the most favourable circumstances, a certain amount of risk is attached. In deciding as to the propriety of performing scarification, one must necessarily have regard to the *cause* of the obstruction; and whilst it would be futile to attempt it in the case of tumours, paralysis of the cords, and impaction of foreign bodies, its performance would be indicated in cases of œdematous laryngitis. I have lately witnessed the beneficial results which accrue from it in one such case, and some time ago I saw another instance in which my friend Dr Black operated, and averted an apparent tracheotomy. The operation is best performed by means of Morell Mackenzie's guarded laryngeal lancet, which, held in the right hand, is piloted to the seat of action by the left forefinger. The usual laryngoscopic apparatus is thus not necessary to its performance.

IV.—ON THE NATURE AND TREATMENT OF PNEUMONIA,

BEING THE INTRODUCTION (SOMEWHAT ABRIDGED) TO A DISCUSSION AT A MEETING OF THE BORDER COUNTIES BRANCH OF THE BRITISH MEDICAL ASSOCIATION, HELD 20TH MARCH 1885.

By STEWART LOCKIE, M.D., Physician to the Cumberland Infirmary.

MR PRESIDENT AND GENTLEMEN,—When our Branch Association, at its last meeting at Kendal, did me the honour to request me to initiate a discussion on pneumonia, I interpreted the request in this sense, that I should open a debate on acute lobar pneumonia, croupous pneumonia as it is called by the Germans, and as it has come to be very generally designated in this country. I was not to speak of other forms of pneumonia, such as catarrhal pneumonia, acute or chronic, and pneumonia occurring in the course of other febrile diseases, but was to confine my attention to the disease which has been one of the subjects of inquiry by the collective investigation committee of our parent society.

But it was manifest that it would be impossible within the limits of a short paper to treat even of croupous pneumonia alone in all its aspects. This would have required infinitely more time than is at my disposal now, even if I had had the ability and leisure to write such a paper. Moreover, I am to recollect that I was requested merely to initiate the discussion. Leaving on one side, then, many questions of interest connected with acute croupous pneumonia, it is proposed to treat of the subject in two aspects only, and I must crave your indulgence for the imperfect way in which I execute even this limited task.

It is proposed to ask first, "What is the nature of pneumonia?" and then to say a few words on its treatment.

What, then, is the nature of pneumonia? Is it a local inflammation, generally caused by exposure to cold, and giving rise to the pyrexia which accompanies it? Or is it a constitutional disease with a local manifestation—its principal local manifestation—in the lungs?

Until comparatively recent years the former of these alternative questions would have been, by most people, unhesitatingly answered in the affirmative, though about twenty-five years ago Parkes, looking at the malaise which frequently occurs previously to the manifestation of the disease, "to the sudden outburst of fever, to the singular and rapid termination of the pyrexia at a time when the lung lesion is yet intense, and to the enormous elimination of urea during the very first days, before the lung exudation has softened down," was exercised with the question whether pneumonia is a local or a constitutional disease.[1]

The tendency of recent observation and research, however, has been to give powerful support to the view that pneumonia is an infective disease, and to eliminate cold as the immediate or principally efficient cause. But even in times antecedent to the most recent, physicians observed that the relation of the disease to cold could not be ascertained in the majority of cases. Thus, according to Wilson Fox,[2] "Grisolle asserts that a discoverable cause of this nature could only be affirmed in one-fourth of his cases, and Chomel and Andral express very similar opinions." In fifty-three cases analysed by Fox himself, "a distinct cause, which, when present, was always of the nature of a chill, could be affirmed in sixteen only."

On the other hand, it is stated by Jos. Frank that "in the retreating armies of Napoleon, exposed to all the severity of the weather in the rigorous winter of 1812, pneumonia did not appear;"[3] and it is stated by Kühn, who, from his observations at the prison of Moringen, has collected statistics on the subject, that "although prisoners were admitted in the coldest and most severe weather, often in most scanty clothing, there appeared not a single case of acute croupous pneumonia, whilst bronchial catarrh and other diseases arising from cold were observed very frequently on such occasions. In general, during the first eight days of the confinement, croupous pneumonia seldom occurred."[4]

That certain weather conditions have an influence on the frequency of pneumonia can, however, scarcely be doubted. The disease is more prevalent at certain seasons of the year than at others, and this with tolerable regularity. Thus, according to Mendelsohn,

[1] Parkes, quoted by Burney Yeo, *British Medical Journal*, vol. i., 1884, p. 1245.

[2] Reynold's *System of Medicine*.

[3] Quoted by Mendelsohn, *Zeitschrift für Klinische Medicin*, 7 Bd., 1883.

[4] *Ibid.*

who, in the admirable paper just borrowed from, has reviewed the literature of the whole subject, and to whom I am indebted, directly or indirectly, for much information, especially on epidemic outbreaks, it has been ascertained by Jürgensen and Ziemssen that, on the Continent, the months of March, April, and May present the greatest number of cases of pneumonia, whilst it is least prevalent in September, October, and November; on the other hand, in the islands, the greatest number happened in December, January, and February, the least in June, July, and August.

As regards the Continent these results tolerably closely agree with those previously obtained by Huss in Stockholm, and with those acquired from observations made more lately on a limited scale. Thus, "in the course of eight years in the garrison of Wesel, out of 300 cases of pneumonia collected by Köhnhorn, 148, or nearly a half, occurred in the months of March, April, and May, whilst in the months of September, October, and November only 38 occurred."[1] Again, in the workhouse of Moringen in the year 1878, out of 58 cases for the whole year, March, April, and May had to show 41, thus 70 per cent.

It is of importance in this connexion to note the statement that the curve of frequency of pneumonia does not correspond to that of bronchitis,[2] and it is to be observed that, on the Continent at all events, lung inflammation is not most prevalent during the coldest season of the year. Nevertheless, as a contributing element in the causation of the disease under discussion, cold cannot altogether be excluded. It is a matter of common observation that a bronchial catarrh frequently precedes by some days the outbreak of pneumonia. Out of 989 cases collected by the collective investigation committee, in which information is given, in 103 premonitory catarrh is mentioned. Cold, therefore, by inducing this catarrh, and probably also by diminishing the power of resistance of the organism to noxious influences, does, I think, at all events contribute to the causation of pneumonia.

On the question whether any other weather conditions influence the frequency of the disease, I forbear to enter at present, further than to say that some observers think there is a connexion between the amount of rainfall and the prevalence of lung inflammation.

That one form of pneumonia is of an infective nature, that is, due to a septic agent received into the organism is, I think, beyond question, and some authorities contend strongly that this is the only form of true croupous pneumonia. That the ordinary form is of this infective nature does not, in my mind, admit of doubt, whilst I do not feel in a position to deny that there may possibly be other forms, as, for instance, gouty pneumonia.

The occurrence of inflammation of the lungs in an epidemic form has now been frequently observed. A great many of these epidemics

[1] Quoted by Mendelsohn, *Zeitschrift für Klinische Medicin*, 7 Bd., 1883.
[2] *Ibid.*

have occurred on the Continent, some in this country. Mendelsohn, in the paper referred to, has collected the records of several. They have taken the form of village epidemics, of epidemics occurring in large public institutions, such as barracks, prisons, and so on, and of dwelling-house epidemics. It may, perhaps, be allowable to notice some of these outbreaks in detail.

"In the village of Obersikt, in Brunswick, numbering 400 inhabitants, within the short period of thirteen days 15 children between the ages of one and five years fell ill of pneumonia—that is to say, 30 per cent. of the whole number. In individual houses the cases numbered three, two, and one. Münnick and Von Holwede, who observed this epidemic, especially mention that it could by no means have arisen from cold, since two-thirds of the children attacked had not been out of doors for some weeks on account of the prevailing cold winds. The illness ran its course similarly in all the cases, and led the attending physicians so much the more to the view of infection, as in the neighbouring district, which had similar weather circumstances, pneumonia did not appear."[1]

A still more remarkable epidemic, which embraced exclusively cases of pure croupous pneumonia, was observed by Penkert in Riethnordhausen. "In the two months from the 28th March to the 28th May 1881, 42 persons fell ill of pneumonia, and amongst the first attacked were 13 children who attended the new schoolhouse. It is a striking fact that during the intervening Easter holidays no child attending the school fell ill, so that it may be taken as certain that the infection came from the school buildings."

Another epidemic, which occurred in 1881, in the village of Lustnaw, was observed by Jürgensen and his assistant. Into the details of this, which, however, are very interesting, I do not, for want of time, enter. There were 45 cases, and the observers mention that in no patient could cold be established with any certainty as the cause of the disease.[2]

Kerschensteiner describes an epidemic which occurred in the male prison at Amberg in 1880. In the first five months of the year, 161 of the prisoners fell ill of pneumonia, of whom 46 died, whilst of the prison authorities and nurses no one was attacked. In spite of the most minute researches, no blame whatever could be ascribed to cold. The disease had, without exception, taken its victims from the general dormitories only.[3]

As an example of epidemics occurring in garrison hospitals, and as also throwing some light on the cause of the disease, may be mentioned one which Knoevenagel observed at Cologne. Within the period from October 1879 to May 1880, the total admissions of sick were 389. Of these 80 were cases of pneumonia, of which 7 died. It was found that the greater number of the cases had inhabited badly ventilated barracks, exposed to noxious exhala-

[1] Quoted by Mendelsohn, *Zeitschrift für Klinische Medicin*, 7 Bd., 1883.
[2] *Ibid.* [3] *Ibid.*

tions. On a consideration of the occurrence of pneumonia in twelve different garrisons, this important fact was established, that in garrisons with new barracks, built on good ground, few or no cases of lung inflammation occurred.[1]

As an example of an epidemic limited to a single house may be noticed the following, related by Müller:—"In the house of a poor village watchman three out of four inhabitants, and two visiting relatives, fell ill of pneumonia. First the mother, aged 53, on 25th November; on 6th December the father, aged 64; on the 7th December the son, aged 18; between the 5th and the 7th December a daughter, out at service, who had nursed the mother for a few days; and on 10th December a grandchild, aged 5, which was much in the house of its grandparents. The disease was marked in all the cases by delirium, somnolence, and typhoid-like tongue. In two there was pleurisy, and in one endocarditis."[2] That this small epidemic was, however, not one of enteric fever is sufficiently attested by the fact that the crises occurred on the fifth, seventh, and ninth days.

These are but examples of epidemics observed on the Continent and cited by Mendelsohn, who notices many others.

To glance briefly at reports of similar occurrences in our own country. In a paper entitled "An Infectious form of Pneumonia," published in the *Lancet* of 18th September 1875, Mr Wynter Blyth reports an epidemic of pneumonia which occurred in North Devon. He refers, amongst others, to three series of cases, two of which strongly support the view that not only was the disease infective, but contagious. He states that Dr Christian Budd, of North Tawton, informed him that "he attended a farmer who was affected with acute pneumonia, and was nursed during his illness by his niece. This niece became affected by the same disease, *and carried it to her husband.*" In another case an old man, affected with pneumonia, reposed on an affectionate relative's breast during a great part of his fatal illness. The relative was very shortly afterwards affected with the same ailment. Another practitioner communicated to Mr Blyth the following:—"A farmer became ill on 16th April. He died in two days. The servant woman went home ill of the same disease about a week afterwards, *and gave it to her married sister, with whom she was staying.*"

In the *Lancet* of 16th November 1878 Mr Couldrey of Scunthorpe gives a short account of a pneumonia epidemic:—"It occurred in two small streets, the sanitary surroundings of which were bad. There were ten cases. Febrile symptoms preceded the local manifestation three, and sometimes four, days. Diarrhœa was present in two cases—abdominal tenderness in every case. A well-marked crisis happened on the eighth or ninth day, the temperature falling below the normal. One case proved fatal." That these

[1] Quoted by Mendelsohn, *Zeitschrift für Klinische Medicin*, 7 Bd., 1883.
[2] *Ibid.*

were not cases of enteric fever is proved by the fact and date of crisis; for even if we believe in short attacks of enteric fever, we can hardly suppose that this exceptional brevity would occur in the whole of a series of nine cases.

In a paper in the *Lancet* of 12th November 1881, Dr Daly reports a series of six cases which occurred in a single house within a period of three weeks. The family consisted of father, mother, and five children. Four out of the five children, who were constantly together, had the disease; so had the mother, who never left the children till she took ill; and the grandmother, who came to nurse her daughter. There were three servants in the house, who were but little in the sick-room. They escaped. The same applies to the father. Two cases proved fatal. Two terminated on the seventh or eighth days in well-marked crises. No insanitary condition could be discovered after careful investigation.

The series of cases recorded by Mr Patchett in the *Lancet* of 25th February 1882 has been repeatedly quoted:—"In less than a fortnight a whole family of five persons died, one after the other, of typical and uncomplicated pneumonia. They were all elderly people, unmarried, and lived together in a farm-house which was well and healthily situated on a steep hill side." "All the sanitary surroundings," says Mr Patchett, "ventilation and water-supply, were everything that could be desired." Nevertheless, though Mr Patchett heads his communication "Contagious Pneumonia," one cannot, in the face of recent investigations, to which reference shall subsequently be made, deny the possibility of the existence of some common cause to which the members of this family were exposed.

The collective investigation committee have furnished reports of several other epidemics of pneumonia more or less limited. As strikingly bearing on the question of contagion may be mentioned the following, reported by Dr J. T. George of Keith, Banffshire:—"A servant girl was attacked with pneumonia on 4th December 1882; six days later her mistress fell ill. The latter's husband was seized with the same disease four days after his wife, at the house of a friend whither he had removed. *Eight days later his friend's daughter, and afterwards the parents also were attacked.*"

(*To be continued.*)

V.—ON CERTAIN FATAL CASES OF RAPIDLY GROWING BRONCHOCELE.

By John A. Macdougall, M.D., F.R.C.S., Consulting Surgeon, Cumberland Infirmary, etc.

(*Read before the Carlisle Medical Society, 9th April* 1885.)

Bronchocele or goitre is so prevalent, and, as a rule, so unimportant a disease, that by the profession and the public alike it is