sometimes without this latter appliance; but, in the case of the new-born child, the skin has not yet assumed its functions; no oxygenation of blood has gone on through its medium. The warm bath, therefore, affords a ready means of maintaining both warmth and the equilibrium of the circulation; and steady, gentle inflation by the mouth, the most certain way of establishing respiration speedily.

As a proof of the value of warmth in reestablishing the suspended vital processes, I may here give the following illustration. A Newfoundland bitch, who frequently gave birth to a numerous progeny, in her fondness for them invariably licked them so unceasingly that they were generally found wet and dead by her side the next day. On the last occasion, when she had given birth to nine, they were found cold, wet, and six only feebly respiring, the next morning; but by assiduous attention, with frictions and warmth, placing them occasionally in an open oven at 130°, they were all saved, and four of them reared to maturity. It is also a well-known fact that ducks hatched at the beginning of August are—particularly if kept from the water, when the mornings are cold, or the evenings, after a hot day, and the grass is wet—almost invariably attacked with cramps in the feet and lower extremities, producing death. A brood of ten, so attacked last year when a month old, were immersed in water of the atmospheric temperature, and kept in it fifteen minutes. They were then able to walk, but were soon again seized with cramp. They were again placed in the water, and afterwards dried and put into an open oven at 100°, which speedily recovered them; but it was found necessary to repeat the process every morning for three days. They were all eventually reared.

Accurate returns from every available source, respecting the treatment of the drowned, time of immersion, or any peculiarity of circumstance connected with such accidents, as to age, constitution, muscular development, etc., appear to me to be of the utmost importance at this stage of the inquiry.

EXTINCT ANIMALS. No triumph of science has appeared more marvellous to the intelligent mind than the reconstruction of a form of life that has passed away long ages ago, and the representation to the visual sense of such animal by its framework, so complete as to leave little to the imagination in realising a complete idea of the once living figure of the extinct beast. In the British Museum the North American *mastodon*, the South American *megatherium*, the Irish giant stag (*megaceros*), the New Zealand giant bird (*dinornis*), are thus exhibited. In the museum of the Royal College of Surgeons the great ground sloth (*mylodon*), and the giant armadillo (*glyptodon*), are similarly displayed. At Petersburgh the huge hairy and woolly mammoth and trichorrhine rhinoceros—both colossal beasts once inhabitants of Britain—may be seen; even the thick hide of the first, and part of that of the second, are there preserved.

CURIOUS SUPERSTITION. Those who are familiar with cottage life in the rural districts will often have noticed a kingfisher suspended by the point of the beak from the beams of the ceiling, and if they have asked the object of the custom, will learn that the bird always turns its breast towards the quarter from which the wind is blowing. Some writers, in mentioning this custom, have said that the bird is so suspended as to point with its beak towards the wind; but in every case where I have seen this curious wind-vane, it has been hung by the very extremity of the beak, so as to rotate freely in every direction. The bird is not stuffed; but various spices are placed in its interior after the viscera have been removed, and the body is then dried by exposure to the sun. (*Routledge's Natural History.*)

Original Communications.

DIPHTHERIA.

By WILLIAM NEWMAN, M.D.Lond., Fulbeck, Grantham.

IN the six months ending June 30th, 1861, I have had under my care thirty-five cases of diphtheria. They are thus given in a tabular form.

No.	Age and Sex.	Occupation.	When first seen.	Ill before first visit.	Result.
1	M. 30	Carpenter.	Jan. 9.	3 days.	Recovered.
2	F. 24	Housemaid.	Jan. 19.	1 day.	Iditto.
3	M. 12	Farmer's son.	Jan. 21.	—	Iditto.
4	M. 12	Labourer's son.	Jan. 23.	—	Iditto.
5	M. 13	Iditto.	Jan. 23.	2 days.	Died, Jan. 27.
6	F. 5	Labourer's child.	Feb. 1.	4 days.	" Feb. 11
7	M. 12	Blacksmith's son.	Feb. 11.	—	Recovered.
8	M. 5	Laundress's child.	Feb. 12.	4 days.	D., Feb. 19
9	M. 25	Shoemaker.	Feb. 14.	—	Recovered.
10	F. 6	Shoemaker's child.	Feb. 17.	—	D., Feb. 26
11	F. 4	Iditto.	Feb. 19.	—	Recovered.
12	F. 9	Laundress's child.	Feb. 20.	1 day.	D., March 3
13	F. 16	Servant.	Feb. 24.	—	Recovered.
14	F. 16	Labourer's dau.	Feb. 24.	—	Iditto.
15	M. 14	Mason's son.	Mar. 2.	—	Iditto.
16	F. 6	Labourer's child.	Mar. 8.	—	Iditto.
17	F. 3	Shoemaker's do.	Mar. 14.	—	Iditto.
18	F. 4	Labourer's do.	Mar. 27.	—	Iditto.
19	F. 5	Carpenter's do.	Mar. 28.	—	Iditto.
20	M. 16	Blacksmith's son.	Apr. 6.	—	Iditto.
21	F. 10	Labourer's child.	Apr. 17.	—	Iditto.
22	M. 6	Iditto.	Apr. 20.	—	Iditto.
23	M. 2	Iditto.	Apr. 22.	4 days.	Iditto.
24	F. 5	Carpenter's child.	Apr. 30.	—	Iditto.
25	F. 3	Iditto.	Apr. 30.	—	D., May 4
26	M. 8	Iditto.	May 2.	—	Recovered.
27	F. 7	Groom's child.	May 6.	—	D. May 15
28	F. 7	Labourer's do.	May 12.	—	Recovered.
29	M. 4	Iditto.	May 20.	12 hrs.	Iditto.
30	M. 6	Iditto.	May 21.	—	Iditto.
31	F. 7	Iditto.	May 22.	—	Iditto.
32	F. 30	Labourer's wife.	May 23.	—	Iditto.
33	M. 4	Labourer's child.	May 23.	—	Iditto.
34	M. 16	Carpenter's apprentice.	May 25.	—	Iditto.
35	M. 25	Farmer's servant.	Jun. 24.	—	Iditto.

Sex exercised no special influence. Of the cases, 17 were males, and 18 females.

Age presented a far different value; as shewn in the following table.

Age.	Number of cases.	Per cent.
0 to 5	11	31.43
5 to 10	10	28.57
10 to 15	5	14.28
15 to 20	4	11.43
20 to 25	3	8.57
25 to 30	2	5.71
—	35	99.99

More than half of the cases occurred under ten years of age; and the numbers diminished in ratio in each quinquennial period.

Mortality. There were 7 deaths among the 35 cases, or 20 per cent. Of these, 2 were males, aged respectively 5 and 13 years; and 5 females, aged respectively 3, 5, 6, 7, and 9 years. Six out of the seven deaths, therefore, occurred in children under ten years of age.

The mean duration of fatal cases, from the first commencement to the time of death, was 8.85 days. In 5 out of the 7 fatal cases, death happened on the ninth or some subsequent day.

Social position. With but three exceptions, the whole of the cases occurred among the poorer classes.

Some of the cases are worth a special remark.

CASE III. This patient was a small delicate lad. The disease subsided after a single free application of hydrochloric acid; but on the fifth day there was complaint of stiffness and soreness about the back part and right side of the neck, soon followed by diffused swelling and redness of the integument. A free and rather deep opening was made, on Feb. 3rd, behind the sternomastoid; and some quantity of pus was evacuated. The recovery was uninterrupted.

CASE V. There was probable transmission of the disease in this instance from Case I. The man (Case I) was a carpenter working at a farmhouse. While there, he had diphtheria, and convalescence was protracted. The boy (Case V) a day-boy on the same farm, was in direct communication with him for several days.

The boy was first seen on January 23rd, having then been ill for two days. The throat presented the usual appearances; and hydrochloric acid was fully applied on the first visit, *but on this occasion only*. On the 24th and 25th, he seemed to be improving. No laryngeal symptoms had presented themselves; and the exudation on the tonsils had certainly diminished. On January 26th, copious hæmorrhage occurred simultaneously both from mouth and nose. I was present shortly after it commenced; and the blood flowed in such a stream as to give the idea that some vessel must have given way about the throat. On January 27th, no bleeding had occurred during the night; it recurred, however, in the day; and within an hour the lad died.

POST MORTEM EXAMINATION, twenty-four hours after death. The tonsils and the back of the pharynx were slightly coated with exudation-patches, all blood-stained. Some small clots were still present in the upper part of the pharynx. No point from which the hæmorrhage might have come could be detected; nor was there any apparent breach of surface. The larynx and trachea were lined throughout with a firm cast; this was also blood-stained, and extended certainly to the larger bronchial divisions. The lungs were deeply coloured; hardly one part even was of ordinary tint. The air-cells and the minute bronchi were stuffed with blood-clot.

I regret much that it was impossible to obtain any more complete examination. The cause of the hæmorrhage must remain in doubt. Whether it came from some branch of the carotid, or from capillary rupture only, I am utterly unable to decide. The excuse must be only too well known to those who make *post mortem* examinations among the poor—the absolute impossibility of conducting such processes satisfactorily in confined space, with little assistance and miserable light.

CASE VI. The parallel of the last named case. She was not seen for some days after the throat-affection had commenced. The whole symptoms were thoroughly adynamic, and she sank rapidly. There was no hæmorrhage.

CASE VIII. Copious epistaxis was the first ill omen in this child. It occurred slightly on the third day after the first visit—the sixth or seventh of the actual illness. The merest necessary movement was found to ensure its repeated appearance. Other symptoms of malignant type soon showed themselves, ending in death on the eleventh day of the disease.

Some blood passed *per anum*; possibly, however, not more than might have come from the posterior nares.

M. Trousseau regards bleeding from the nose as proof that the nasal passages have been invaded by the affection, and further says: “Ces saignements de nez dans la diphthérie ont été de tous temps considérés comme des phénomènes d'une immense gravité.” (*Clinique Méd.*, vol. i, p. 341.)

CASE X. This instance occurred in a feeble miserably fed girl. She refused food from the very first. The local deposit on the fauces subsided after the first day or two; but croupal breathing came on about the fourth or fifth day, and she rapidly grew worse, and died.

CASE XII. Connected with and not unlike Case VIII. The affection was observed the day after the brother's death. Treatment was at once instituted; and large supplies of wine and food were taken; but the child slowly sank from exhaustion. There was no hæmorrhage whatever. I saw in this instance, perhaps more markedly than at any other time, the extreme waxy pallor of the skin. It would almost seem too much for us to say in this country, as M. Trousseau does, “Celle-ci (*i. e.*, la décoloration) est en effet un phénomène constant et invariable dans la forme maligne de la diphthérie.” (*Op. citat.*, p. 343.)

CASE XIV. I notice this case simply from the mode in which it seemed that the disease might have been conveyed to the patient. The mother, nurse of Cases VIII and XII, paid a single visit to her home the day after Case VIII died. She herself was throughout perfectly well, having no throat-affection whatever. The daughter was taken ill within two days. There were not, and had not been, any prior instances of the affection near their residence.

CASE XXIII. Exception has been taken, and by no mean authorities, to the free use of such potent applications as hydrochloric acid. I believe, however, that much good may be done by these means; and in some cases, at least, it would seem that the course may be cut short. Thus this child had failed in appetite for several days, and had been feverish and restless. The tonsils and palate were thoroughly coated with exudation. I gave a most unfavourable prognosis, looking to the age of the child (two years), as well as to the extent of the local deposit. The acid was freely applied. Two days afterwards, hardly a trace of the throat-affection remained, and the child's appetite had returned.

CASE XXV. Death resulted in this case, probably as much from extension of the disease to the pulmonary structure, as from the affection of the larynx. The general symptoms confirmed this impression. *Post mortem* examination was unfortunately confined to the larynx; a firm cast of false membrane lined the whole. The specimen was forwarded, untouched, to the Pathological Society, and kindly exhibited there by Dr. Harley. There were traces of exudation, and small patches of tough false membrane visible on the tonsils and back of the pharynx.

CASE XXXII. This was the only instance in this set of cases where there was any supervention of paralysis. The diphtheritic affection was not severe; nor were the symptoms of constitutional disturbance very marked. The woman was seven months pregnant. No disturbance of the process was experienced, and she appeared to become fairly convalescent. Somewhat suddenly, partial paralysis both of sensation and motion was experienced in both lower extremities. There was no hyperæsthesia; nor could distinct history of prior tingling, etc., be established. The recovery was perfect.

July 31st. At the time of writing the present sheet, this patient has been confined a week. There have been great mental disturbance, delirium, dislike to child, etc.; and, during the last three days, inflammation of the saphena vein has appeared. There is, however, no residue of the paralytic affection; nor does there seem to be connexion between these symptoms and the prior illness, beyond such as may be due to the general depression of the system.

Aug. 4th. She died, apparently from simple asthenia. On *post mortem* examination, the muscular substance of the heart was found fatty, both within and without the sarcolemma.

CASE XXXIV. This lad was apprentice with the father of cases XXIV, XXV, and XXVI, and resident in the same house with them. The symptoms were very severe. Reproduction of the false membrane was noticed again and again, and recovery was very slow. There have not been any of the sequelæ of the disorder.

However convenient, and frequently even absolutely correct, it may be to class cases of diphtheria under the heads of *simple* and *malignant*—the one attended by laryngeal complication, and thus fatal to life; the other destroying the patient by its action as a septic poison: yet they are essentially the same. The two forms, it would seem, may replace one another in different members of the same family; or, in other cases, the simple may merge into the more serious type. On this subject, the opinion of M. Trousseau may be quoted:—"La diphthérie est donc une maladie spécifique par excellence, dont les diverses manières d'être locales et générales, constituant seulement des variétés dans l'espèce, doivent se rapporter à l'action d'une principe mortifique unique; d'un virus spécial:—c'est, en un mot, une maladie pestilentielle." (*Op. citat.* p. 365.)

For a further purpose, I would divide the table given above into—

Sporadic—12 cases, 2 deaths;

Endemic—23 cases, 5 deaths.

The first division refers to instances where the disease occurred in isolated or separate localities; the second, to a series happening in the immediate vicinity of, and directly connected with, one another.

It would almost seem that the opinion has slowly gained ground that this disease is less influenced by the presence or absence of fair hygienic conditions than most like disorders. To a certain extent, I believe this idea to be correct; but, let the disease once show itself, the further progress will depend materially on the surrounding arrangements. In proof of this, I would adduce the following:—

CASES VIII and XII, both fatal, one from hæmorrhage, the other from exhaustion, occurred in children living with their mother in rooms over a laundry. A staircase led directly from the washhouse to their rooms; and at the base of this staircase was an open grating, constructed to carry off to a main sewer, some eight feet distant, the water used in washing. The effluvia from the main sewer had thus most easy access to the rooms above. I do not wish to imply that this arrangement determined the appearance of the affection; but that the polluted air had some share in the ultimate result I have no sort of doubt.

The remaining twenty-one of the endemic cases occurred in some blocks of small cottages standing on less than half an acre of ground, arranged for the most part in parallel rows, with a strip of so-called garden or of waste ground between them. In no instance was there a drain for refuse water available; nor had the economical builder deemed it necessary to sink a well or erect a pump. The privies, not more than four or five in the whole, if so many, were but mere excavations in the ground, with walls and roof; but neither vault nor cesspool existed in any of them. The pigsties were close to the doors, favouring the convenience, though not the health of the residents. The houses themselves contained two rooms, a few of them might have three; but in the bed-rooms, in which from five to ten persons were stowed away night by night, the window frequently failed to open, and the whole cubic capacity was not more than six hundred cubic feet. Refuse materials of every kind were thrown upon and slowly absorbed by the surrounding soil. It is by no means too strong to say, that the whole colony lived on a huge heap of decaying material. What wonder then if, one after another, twenty-one cases of diphtheria should have occurred—almost all severe, many protracted to a degree, and some fatal? The only subject for astonishment would seem to be that the inhabitants were not literally decimated by the affections.

The remarks of Dr. Budd on the mode of propagation of the disease, in the JOURNAL of June 1st, are specially applicable to such a nest of cases as those here referred to. His observations have thrown light on more than

one series of cases with which I have come into contact; and the practical suggestions deduced by him are of the highest value.

As to the question of treatment, I have little to add to the uniformly tonic and stimulating plan advocated in a paper written by myself, and published in the JOURNAL of February 23rd, 1861. But slight, if any variation, was made in the treatment of the cases I now report; and though the rate of mortality be high, the cause may probably be found very much in the external conditions. It may seem, perhaps, that this subject is worn threadbare, and that the bare mention of cases is almost valueless; yet I believe that for some time to come, every contribution, however small, must prove an addition to our only too limited knowledge.

Reviews and Notices.

ON FOOD AND ITS DIGESTION; being an Introduction to Dietetics. By WILLIAM BRINTON, M.D. London: 1861.

THE volume which Dr. BRINTON presents to us is in great measure, as he informs us in the preface, a reflex of his physiological lectures upon the subject at St. Thomas's. To this we can in no wise object, and are only glad to find that the students of that school are so well fed (we are speaking of mental food), and have, as we may presume from the fare provided by their caterer, such good capacity of digestion. The various topics are handled in a thorough and careful manner, and each discussion bears evidence of a large and philosophical and cultivated mind. It is a great advantage in the present day to have such to sift and weigh the mass of constantly accumulating observations, and to eliminate for others of inferior capacity the grains of truth, or, at least, to point out in what direction they lie, and what are the nearest approaches that have been made to them.

Chapter I treats of the Need of Food; Chapter II, of its Nature. The first discusses the subject of the bodily waste which takes place; the second, that of the alimentary constituents that are to replace it, speaking generally. Chapters III, IV, V, and VI describe the Organs concerned in Digestion; Chapters VII and VIII, the Varieties of Food, Animal and Vegetable. Chapter IX treats of Condiments; Chapter X, of Tea and Coffee; Chapter XI, of Alcohol; Chapter XII, of Cookery; Chapter XIII, of the Choice of Food or Diet. From this general account of the work, we will now pass to some particulars.

With regard to gelatine, the author draws a just distinction between it and the tissues of which it is an educt, assigning a much higher nutritive value to the latter than to the former. He admits, however, that gelatine is a true nutriment, being capable both of undergoing assimilation on the one hand, and a combustion which develops heat on the other. Taking up the common statement, that the flesh of young animals is more tender and digestible than that of old, Dr. Brinton finds an explanation in the circumstance that all the tissues are softer, more watery, and more soluble; and particularly that the muscular fibre itself is smaller. In one familiar instance, that of veal, we cannot help questioning the truth of the above general statement. Certainly, for digestibility, commend us to a sirloin of beef, rather than to veal-cutlets.