and 10,201 under five years of age, from which we can estimate its frequency when compared with other diseases of the zymotic class.

	Deaths under 12 months.	Under 5 years.
Small-pox	287	612
Scarlatina	770	11,045
Measles	2,282	9,252
Diphtheria	209	1,569
Croup	507	3,507
Whooping-cough	4,588	10,201
Typhoid	168	1,279
Simple continued fever	70	595
Diarrhoea	15,091	18,598

The chief point to which I would direct attention is the great difference which age seems to make in respect to the symptom of the whoop; for, I have observed, in children under twelve months, that the distinct character which distinguishes it at a later age is usually absent. The reason of this, it would seem probable, is due to the feeble vocal powers of the infant, and that the laryngeal organs are not sufficiently developed to produce the sound.

There is another point which affects the accuracy of the large number of cases returned under diarrhoea. This symptom occurs frequently in the course of an attack of whooping-cough. Among the earliest symptoms, there is often diarrhoea, if not to a serious degree, at least sufficient to attract attention. In fact, the first symptoms of the disease are great rise in temperature, refusal of food, and slight diarrhoea. But it is in the advanced stage that it becomes serious, and, though it appears to prove a favourable termination in some cases, in others, and these a large number, it proves fatal.

It may be anticipated, when all the phases through which whooping-cough passes, and the symptoms it causes, are recognised, the number of deaths returned under diarrhoea will, as may be observed to have been the case in many other diseases, greatly diminish in the returns of the Registrar-General. Diarrhoea in infants appears to me to be a symptom almost always either of improper feeding or of whooping-cough, and, so far as an opinion can be formed, from the number of death-certificates which have been required among the patients under my own observation, whooping-cough is the most frequent cause of death in children under the age of twelve months; though, in proportion to the total number of cases of the disease, the most fatal by far is syphilis.

When we consider the vitality which the young of most of the higher animals exhibit, and that the rate of mortality which exists amongst infants and children is very much higher, the various causes which occasion it are deserving of the most serious attention. If we compare the mortality from whooping-cough, for the years 1876 and 1877, we find there is very little difference indeed between them (1876: 10,556, in a total for England 510,315; 1877: 10,518, in a total 500,348); but, in the first two quarters of the past year, the deaths from whooping-cough were 10,343, in a total of 268,936; that is to say, in the first half of last year, there have been as many deaths from whooping-cough as occurred, on an average, in the twelve months of each of the two preceding years.

It must be allowed that, at present, we possess no specific remedy against this disease; and, though I am strongly in favour of the use of the inhalation of the vapour of some of the hydrocarbons obtained from coal distillation, from having had more success with that plan of treatment than with any other, I beg to reserve any further remarks upon this subject for the present. It is rather from the conviction that the etiology of the disease has not been elucidated by pathological research, and that our investigations must be directed to the phenomena presented to clinical observation, that I have ventured to restrict my remarks to the general results of clinical experience.

THE SPRING AT CANNES AND IN THE LITTORAL.

By TH. DE VALCOURT, M.D. Paris, and M.R.C.P. Lond.,
Cannes.

I READ with great interest, in the BRITISH MEDICAL JOURNAL of September last, an article by Dr. J. H. Bennet, entitled "The Genoese Riviera in Spring", in which the distinguished physician in Mentone speaks of the beneficial influence of the climate of the littoral in spring. I expressed the same opinion a long time ago, in my work entitled *Cannes and its Climate* (now in its third edition); and this subject appears to be so important for invalids, that I am desirous of calling to it the attention of the medical profession. It is often said that the month of March is dangerous in the littoral because of the frequency of the "mistral", and that the heat becomes intolerable in April and May; therefore, it is said, it is necessary to leave this country before the spring, as a more prolonged sojourn would do away with the good done to the health during the winter. Nothing, in fact, is less exact,

nor more deplorable in the result. It is perfectly true that in March the temperature is variable, and there are a few days of wind; but after fourteen years of daily meteorological observations and of medical practice, I uphold that there is no country where the variations of climate are less accentuated. The mean temperature in March at Cannes is 52 deg. Fahrenheit. The thermometer very seldom falls to freezing point during the night, and never during the day. When the "mistral" blows, the thermometer rises, and the sky becomes cloudless and blue. The only disagreeable consequence of this wind is the dryness of the atmosphere; therefore, patients must take the precaution to have from time to time in their room a vessel filled with boiling water; they will thus prevent the air from becoming too dry, and keep up a certain moisture: they may have the rays of the sun through the windows, but should not go out or walk about. This dryness lasts a short time, and whenever the wind falls these precautions are unnecessary.

With attention to some hygienic rules, invalids avoid the dangers attendant upon the meteorological shocks inherent to the change of season. Therefore it is very necessary for them to remain where they are during this period, and not to attempt to move about from town to town, or hotel to hotel. Regarding the supposed suffocating heat during April and May, let me quote the following extract from Dr. Bennet. "Although I have spent nineteen winters at Mentone, I had never before remained there during May, my annual explorations of the Mediterranean, and the obligations of London practice, having hitherto obliged me to leave in April. My estimate of the climate in May was therefore founded on the reports of others, not on personal experience. A careful study this spring of the temperature and meteorological conditions existing at Mentone in May, combined with previous experience of the Mediterranean generally in that month, has led me to the following conclusion. The fear of extreme heat in May in this, as in all other regions of the Mediterranean, which leads winter health-emigrants from the north to make a precipitate return north in April, or, at latest, early in May, is not substantiated by facts. This fear is founded on the often summer-warmth of February, March, and April, but ignores the systematic cold north-easterly winds which usually prevail in Europe in April and May, and which are felt all over the Mediterranean."

The thermometer indicated 36 deg. on the 1st of April, 1878, the coldest temperature during this period of fourteen years, and 77 deg. on the 30th of April, 1871, which was the highest. The mean temperature of the month of April is 56 deg. In May, the absolute minimum, 42 deg. during the night of the 1st of May, 1873; and the absolute maximum, 84 deg., 27th of May, 1873. The mean temperature of the month of May at Cannes is 74 deg. In spring, there never is hoar-frost, as in the north. A feature worthy of remark is the first very hot days each year at the beginning of spring in London and Paris, where the thermometer rises higher than at Cannes, and which are followed by very sharp cold and frost. This phenomenon can be easily compared by throwing a glance over the meteorological charts which I have published in my book. Thus there is no more favourable time than the months of April and May for sea-bathing; the water has not yet attained a very high temperature; it is between 61 to 66 deg., and the sun is very warm. The fine sand of the shore at Cannes is granite (porphyry and gneiss). On this account, nothing is a better tonic for children than to take sea-baths, not remaining long in the water, and followed by a brisk friction. This is the true marine system of hydropathy.

The climate of Cannes is specially suited to persons suffering from delicacy of the respiratory organs (except in such cases where fever rises high), the scrofulous, the rheumatic, the gouty; to those who suffer from poverty of blood; above all, to the coxalgics.

The season commences in October and ends in May. Those who cannot make so long a stay do a hundred times better to come late in autumn than to go away too soon in spring; for nothing is more dangerous than a precipitate return to the north at a time when an equal temperature is not yet established. Invalids would, on the contrary, do wrong to remain in the littoral during summer, especially during August. The heat during the daylight is tolerable, according to the influence of the sea-breeze, but the nights are often suffocating; whilst the earth sends out an enormous amount of solar heat absorbed and accumulated during the day. Thus the sojourn, so favourable to patients in May, must not be prolonged into July and August. Those who cannot go far, do well to seek the neighbouring hills, or, still better, to go to Switzerland.

Another error rather frequent is the idea that all valetudinarians should live on the hills, and not by the seaside. Formerly, it was said to all patients sent south to reside at the seaside that it was not successful for everyone; then the physicians rushed from one extreme to the other, and forbade any to live on the coast, but sent them all, without exception, to the amphitheatre of the hills. It must be clearly under-

stood that there are two distinct categories of patients. All those whose temperament is lymphatic, rheumatic, gouty, poor-blooded, a phlegmatic or torpid temperament, even when they are at times subject to hæmoptysis, but without habitual fever, enjoy greater health by the sea than anywhere else. Those, on the contrary, who are the subjects of a pathological state characterised by an elevation of the temperature, or who have acute rheumatism, or suffer from nervous irritability, must absent themselves from the littoral, and seek the more mild air of the mountains. There are distinctions which cannot be made without medical examination and experience of the different localities. In a word, the benefit of a residence in the south during winter often depends upon the choice of a dwelling and the prolongation of the sojourn till the middle of spring.

CLINICAL MEMORANDA.

NOTE ON THE TREATMENT OF DIPHTHERIA.

I HAVE treated my last eight cases successfully by the local application of sulphurous acid spray. Of course, I cannot say I cured them; but I have not had a previous series of eight cases without a death. I teach the nurse how to work the spray-producer, and direct it to be used every three or four hours, and I apply it thoroughly myself at least twice a day. Internally, I have given heroic doses of the liquor ferri perchloridi, and a supporting diet. I am induced to send this note by the perusal of Dr. A. Carpenter's paper "On the Possibility of an undue quantity of Carbonic Dioxide being a predisposing Cause", and by his suggesting sulphurous acid as an appropriate remedy; also because, in the leader in the JOURNAL on "The Treatment of Diphtheria", it is omitted from the list of spray medicaments. There is also another agent, I think, which should be tried, with the view of limiting the outpouring of the albuminous exudation on the tonsils and fauces, viz., electricity applied to the back of the neck. It has seemed to me that the stress of the poison, whatever may be its nature, falls on the great cervical ganglia of the sympathetic; certainly the local manifestation, i.e., the exudation, chiefly forms in the parts in nervous relation with them, and it is possible their stimulation might control it. As bearing on this point, I remember a paper "On a Case of Diphtheria" being read at one of the Branch meetings, I think by Dr. Kirby, in which consecutive paralysis and albuminuria existed, and in which it was found that the amount of albumen in the urine was distinctly controlled by electricity applied to the back of the neck. There must surely be some agent, capable of being locally applied, either by spray or inhalation, that would prevent the exudation from solidifying. Then one rock at least, on which life is frequently wrecked, would be eliminated from the case.

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INTERMITTENT DIPHTHERIA.

I READ in the JOURNAL of February 8th a case, recorded by Dr. Beeby, of diphtheria of an intermittent type. His account of his case has been of especial interest to me, as I have within the last few days had a very similar case under my care, it being the only instance of which I had heard. In my case, the first patches of membrane appeared on the anterior pillars of the fauces, and were attended by considerable constitutional disturbance. On the third day, the membranous patches had entirely disappeared and the child was apparently well; but, on the fourth day, he became very feverish again, and when I saw him he had a fairly-sized diphtheritic patch on his left tonsil. In a day or so, this was quite well, and he was running about again apparently well. But again, on the eighth day, he was again laid down, this time owing to a deposit on the posterior pillars of the fauces. After this last attack, he made a good recovery.

The treatment pursued in this case was: at first, nitro-hydrochloric acid and chlorate of potash were administered, and afterwards iron and quinine. The patches were each time painted with a solution of nitrate of silver (gr. iv ad ʒi).

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URINOMETRY BY HASER'S COEFFICIENT.

DURING my stay in Vienna, and attendance on the lectures of the distinguished professors, I have learned some points on the above subject which may be interesting to English readers. The amount of solid matter in normal urine, in twenty-four hours, is about one thousand grains. If this be greatly increased, as for example, to three thousand grains, the case is one of diabetes. On the other hand, when it is decreased, as for example, to three hundred grains, the case is one of hydruria. By means of a coefficient, discovered by Häser and called

Häser's coefficient, the amount of solid matter can be determined with considerable accuracy. This coefficient, reduced to English equivalents, is 35.95, and is used in the following manner:—The urine of twenty-four hours is measured, and its specific gravity taken. The last two digits of the specific gravity are multiplied by the coefficient, and the result gives the amount of solid matter in one thousand cubic centimetres. From this is easily calculated the amount of solid matter in the quantity of urine under examination.

Suppose, for example, the quantity of urine in twenty-four hours to be 4000 cubic centimetres of specific gravity 1.007; then $7 \times 35.95 = 251.65$ grains, which is the quantity in grains of solid matter contained in 1000 cubic centimetres, and in 4000 the quantity is 1004.6 grains; so that in this case the quantity of solid matter is normal, and only the amount of water is increased. Were the solid matter decreased, the case would be a physiological one of *urina potis*.

Suppose, again, the quantity of urine in twenty-four hours to be 6000 cubic centimetres of specific gravity 1.013; then $13 \times 35.95 = 467.35$ grains in 1000 cubic centimetres, = 2804.1 grains in 6000 cubic centimetres. Here the solid matter is greatly increased, more than double the normal, and the case is one of diabetes.

For another example, take the day's urine at 2000 cubic centimetres of specific gravity 1.005; then $5 \times 35.95 = 179.75$ grain in 1000 cubic centimetres = 359.5 grains in 2000 cubic centimetres. Here the solid matter is greatly decreased and the case is one of hydruria.

In this way, the differential diagnosis between diabetes insipidus and hydruria, on the one hand, and *urina potis* on the other, as also between oliguria and normal urine can be made by merely calculating the solid matter. Other important conclusions can also be arrived at in a similar way. For instance, if a kidney-disease be present, the quantity of urine normal or decreased, and the specific gravity very low, it can be concluded that, since uric acid constitutes almost half of the whole solid matter, it is not being sufficiently eliminated, and uræmia is to be feared. Since the relation of the quantity of urine to the matter in solution is not constant, the calculation of the latter cannot be exact.

The error amounts to six per cent. (in urine with abnormal constituents still more), so that if we find, on one day, 122 grains or 32 grains, where he has calculated the previous day 77 grains in 1000 parts of urine, he is not to conclude that there is an increase or falling off of the solid matter.

Again, in the determination of the changes of solid matter by the specific gravity, it should be investigated whether the patient has taken her usual food, or has taken nothing (as is the case in acute diseases). In the latter case, 450 grains should be taken as a mean, so that, for example, in a case of pneumonia, put on absolute diet, 600 grains should be considered as an increase of solid matter, an increase which is produced only at the expense of the febrile body.

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HERPES ZOSTER, AFFECTING THE INSIDE OF THE CHEEK AND TONSIL.

RARE affections, or rather rare forms of different affections, are not always available for the clinic of hospital physicians, and sometimes present themselves when least expected. I have just concluded my attendance on a lady who developed shingles on the left side of the body, the zoster dorso-pectoralis of Hebra; this was dying away under the ordinary tonic treatment combined with arsenic, when, on visiting my patient one morning, I discovered her face on the left side much swollen, as if from gum-boil or alveolar abscess; but, on looking into the mouth, I found a well-developed crop of vesicles of zoster, occupying part of the inner side of the cheek; they exactly resembled the vesicles on the chest and back, except in colour, which would naturally be the case from their change of *locale*; they were collected, as in the outward eruption, in a racemose patch. Three days subsequently, the patient asked me to look at her throat, which she complained of as *sore*; and here, on the left tonsil, I found another patch of vesicles, in size and shape identical, but less in number than those in the cheek; the vesicles in either case dying away at the same time; the pain was similar exactly to that felt on the chest and back. Hebra gives a list of seven different localities in which herpes zoster is found; but I cannot find in his work (Sydenham Society's *Translations*), or any other to which I have access, any allusion to herpes in this situation. I confess I should have doubted its being herpes, had it not appeared synchronously with the eruption on the chest and back, and, like herpes, confined itself to the one (left) side of the parts named. I hope this may attract the attention of some of the members who devote themselves specially to the study of skin-disease, as I imagine it to be an unusual place for the disorder.

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