it presented some circumstances worthy of notice, I will relate it.

CASE. Henry Godley, aged 23, presented himself, June 17th, with face flushed and eyes suffused, and appeared in a state of great agitation. He breathed with difficulty, and complained of intense burning pain in the throat and in the pit of the stomach. He had inquired, it seems, at a chemist's for something to destroy vermin, with which his person was infested. Now, either not receiving sufficiently clear instructions, or mistaking them, he swallowed a drachm of corrosive sublimate dissolved in half a pint of water, instead of using it as a lotion. He vomited immediately, and probably discharged the greater part of the poison; but was instantly seized with the burning pain above mentioned. Mr. Penfold made him quickly swallow the white of eggs, and copious draughts of milk. Leeches were applied to the epigastrium; and, later, a dose of castor-oil was administered. 18th. The oil had acted: but nothing unusual was observed in the stools. He still suffered internal pain, and complained of soreness of the mouth and throat. The tongue was red; the gums rather spongy; the lips were dry, red, and swollen. Same treatment. 19th. He was feverish, and thirsty; complained of more pain, and burning internally. The epigastrium was tender. More leeches were ordered, and saline effervescent draughts were prescribed. On the 25th he was discharged quite well.

This case exhibits a fair example of the irritant effects of mercurial poisoning. It was a remarkable circumstance that the effects of so large a dose of the poison should have been confined to the mouth, œsophagus, and stomach. There was no diarrhoea, nor any other sign of intestinal irritation; no difficulty of passing water; no ptalism. It may be presumed that this soluble salt of mercury had been converted into a comparatively innocuous compound by the antidotes given for that purpose, and, therefore, those textures only with which it came into immediate contact, suffered from its corrosive action; very little probably having been carried into the circulation.

The above is a condensed report of 490 cases of disease, treated in hospital during the three years mentioned. The deaths amounted to 18, being in the ratio of about 3·6 per cent. They occurred as follows:—Typhoid fever complicated with hæmorrhage and abscess, 2; Meningitis, 3; Sanguineous apoplexy, 1; Abscess of the brain, 1; Delirium tremens and diseased liver, 1; Cancer, 1; Phthisis, 5; Bright's disease, 2; Hypertrophy and valvular disease of the heart, 1; Obstruction and ulceration of the bowels, 1.

Brighton, January 1853.

ON THE MEDICO-LEGAL SIGNIFICATION OF CLOSURE OF THE FORAMEN OVALE.

By JOHN C. BLOXAM, Esq.

THE perusal of an article in the ASSOCIATION JOURNAL of the 4th current, by Dr. C. Kidd, on the Medico-legal Signification of Closure of the Foramen Ovale, induces me to offer a few remarks on the same subject.

The formation of the foramen ovale, and the mode of its closure, have often appeared to me to be misunderstood. The foramen is not formed like a hole punched out of a piece of paper, and is not, except as the consequence of disease, subject to have a layer of lymph thrown across it. The formation of the foramen resembles a slit cut through a piece of paper, which admits of being held in such a position as to form an oval-shaped opening; but it also admits of being held in such a position as effectually to close this aperture. In the new-born infant, the structures round the foramen are, also, so formed that the two lips of the opening admit readily of being made to overlap one another. Now, prior to inspiration, I apprehend that the parts remain in a position which preserves the patency of the foramen, but upon an effectual inspiration being made, the altered relative position of the different parts of the heart, (caused

partly by the distension of the right ventricle, through the expanding influence of the act of inspiration, whereby it becomes filled with blood), as well as the altered position of the whole organ, through the descent of the diaphragm, causes the opening to be, practically and functionally, completely and instantaneously obliterated, in consequence of the two lips of the opening being brought into the same plane. The lips, when thus brought into contact, and overlapping one another, gradually unite; but the opening is effectually closed without such union.

It is very easy for an observer to be deceived as to the patency of the foramen, especially when the examination is made with the heart *in situ*. The foramen may have the appearance of being completely obliterated, and yet, upon some accidental movement of the parts, the two lips may be made to slide upon one another, so as to leave a small opening between them; or they may be brought into different planes, and the opening thus be restored to its original dimensions. From my own observations, I have no doubt that the foramen may, in some cases at least, be restored to its original dimensions some considerable time after respiration has been thoroughly established.

Newport, Isle of Wight, February 1853.

ON MEDICAL METEOROLOGY.

By T. MOFFAT, M.D., F.R.A.S.

FOR some years I have kept a register of daily observations of the barometer and other meteorological instruments, the amount of atmospheric ozone, and the dates of the commencement of diseases, as they occurred; and from what I have observed, I readily concur with the opinion of Dr. Addison, as stated in his article on "Requirements in Meteorological Tables", that the changes of the weather are prejudicial to health, and that mean readings of meteorological instruments do not show the connexion between the prevalence of diseases and atmospheric conditions. I feel confident that meteorological tables cannot be of any value, in a medical sense, unless they are formed of daily observations, and include the date of commencement of individual diseases; for even a slight increase or decrease in the readings of the barometer, with a change in the direction of the wind, leads to an increase in the number of cases, or to their entire removal. I have observed that the following diseases,—viz., apoplexy, epilepsy, infantile convulsions, and sudden deaths, premature labour, menorrhagia, uterine pains, diarrhoea with sickness, and with or without cramps, toothache, neuralgia, etc.,—seldom occur without decrease of the readings of the barometer and changes of weather; that snow and hail showers are, all but invariably, accompanied by seizures of apoplexy, epilepsy, and sudden deaths; and that ozone never appears without a decrease in the readings of the barometer, and that its presence or absence in the air depends entirely on the direction of the wind.

Of the number of cases of apoplexy which occurred in the years 1850 and 1851, fifty per cent. took place on days of decreasing readings of the barometer, and fifty per cent. happened on days after such readings; one hundred per cent. occurred with fall of temperature, and they all took place with a direction of wind from the S.E. and S.W. points of the compass. Of the cases of epilepsy in the same years, sixty-nine per cent. occurred with decreasing readings of the barometer, and ninety-eight per cent. took place with decreasing readings of the thermometer. Of the cases of toothache, ninety per cent. commenced with fall of the barometer, and seventy per cent. with fall of temperature. Eighteen out of twenty-three cases of premature labour occurred with decreasing readings of the barometer, and either a reappearance or an increase in quantity of ozone. Of seven sudden deaths, five occurred with wind from N.W. with hail showers. All the diseases above enumerated observe a similar rate of per centage, to similar readings of the barometer and thermometer. Directions of the wind appear to influence the prevalence of certain diseases; for all

the cases of rheumatism which came under my notice in the same years, commenced with directions of the wind from southern, north-western, and intermediate points; as also did all the cases of bronchitis and pleurisy. All the cases of infantile convulsions commenced with the wind in the W. and N.W. points. All the cases of erysipelas took place with a wind from N. and S. and intermediate points, by way of W.; while toothache and neuralgia occurred with the wind from all points of the compass; but these two last diseases, diarrhoea, and some others, are *invariably followed by a decrease in the readings of the barometer, and a change in the direction of the wind.*

The following may be viewed as a type of a meteorological process, and of the class of diseases which accompany it. If the wind continue from the northern points of the compass, that is, from points between N.W. and S.E. by way of E., the barometer readings will remain high, there will be few or no cases of disease, and no ozone; but if the wind passes into southern points, that is, to points from N.W. to S.E. by way of W., the readings of the barometer will decrease, there will be toothache, neuralgia, and diarrhoea, etc.; there will be ozone, and general changes in the weather; and when any of these diseases occur, *when the wind is in the northern points*, they are a certain indication that decreasing readings of the barometer will follow in a few hours, and ozone will be detected, or not, just as the northern or southern current prevails.

These conclusions are the result of close and uninterrupted observations during four years.

Hawarden, Flintshire, February 5, 1852.

BIBLIOGRAPHICAL NOTICES.

PATHOLOGY AND TREATMENT OF HYSTERIA. By ROBERT BRUDENELL CARTER, Member of the Royal College of Surgeons of England. 8vo. pp. 161. London: 1853.

For a young author, Mr. CARTER's choice of a subject may appear to be a bold one. Hysteria, with its Protean manifestations, inscrutable mental and moral states, sexual sympathies, and admixture of real and imaginary, true and feigned complications, may well demand the study of a lifetime, and an experimental acquaintance with human nature and its infirmities, such as we expect to find only in those of mature years, and who have devoted themselves to much observant intercourse with mankind. But Mr. Carter enters with no ordinary advantages upon the task he has undertaken, and has succeeded in fulfilling it in a corresponding manner. He has, as he tells us in his preface, enjoyed the confidence, and assisted in the practice, of one who was extensively known by his successful treatment of the most inveterate hysterical disorders. To the memory of this gentleman,—the late Mr. Stephen Mackenzie, of Leytonstone, who was overtaken a short time ago in the midst of health and increasing reputation and usefulness, by sudden death from accident,—the book is appropriately dedicated; and we are given to understand, that on his opinions and precepts the views of the author have been formed. The book, at the same time, bears ample evidence of independent thought and study having been brought to bear upon the subject; and, in its style and arrangement, is highly creditable to the abilities and judgment of the author. We shall endeavour to give, in the shortest possible compass, an idea of its contents.

Mr. Carter altogether sets aside those theories of hysteria which seek for its origin in a physical cause, whether that cause be some unknown state of the general constitution, or irritation of particular organs, as of the uterine system. In his view, it is purely mental in its origin, and is to be considered a disease of emotion. By the term emotion, he explains himself to mean certain vivid feelings or sensations associated with an idea of pleasure or pain, and aroused by objects either perceived, or remembered, or

imagined, or by the remembrance of other prior emotions. After tracing the effects of emotion, in the state of health, upon the muscular, circulating, and secreting systems of the body, and pointing out the influence of attention directed towards any portion of the organism, in rendering it not only prone to gradual changes of nutrition, but also to become the habitual outlet for any strong emotion, the author proceeds to apply these facts to the subject of hysteria. Women are more liable to its attacks than men, because they are more under the influence of emotion, and because there are many powerful emotions—and those not alone confined to the sexual passion—which, in the state of society in which we live, they are called upon to repress and conceal. And it is laid down as an invariable rule, that the paroxysm will be violent, in exact proportion to the length of time during which the feelings giving rise to it have been concealed. Females are at the same time peculiarly exposed to circumstances, such as the periodical recurrence of menstruation, and the disturbances to which that function is liable, that tend to concentrate and fix the attention upon the reproductive system. Anæmia, chlorosis, and other conditions of impaired health, are not to be regarded as causes of hysteria; though, by weakening the body, they diminish the power of resisting emotional influences, and thus augment the proclivity to the disease.

The convulsive paroxysm is considered by the author to be the essential characteristic of the disease, and all the other manifold phenomena which are usually recognized as hysterical, to be merely secondary and non-essential. If the fits occur alone, or are accompanied with certain physical complications only, the case is called simple hysteria; if involving much moral and intellectual, as well as physical derangement, it is called complicated. But a more important classification of cases of the disease, according to the views of our author, is that which refers to the mode in which the emotions giving rise to the paroxysm have originated, whether they are original or remembered; and in the latter case, whether suggested involuntarily, or recalled at will. Each case will thus be brought under one or other of the heads of primary, secondary, or tertiary hysteria. The primary cases are those which are excited by some original and fresh emotion, to the action of which the system has not before been subjected. The attack may exhaust itself in one paroxysm, but it generally leaves its subject in a state of greatly increased susceptibility—so much so, that emotions not sufficient to produce a first attack may readily give rise to subsequent ones. In particular, whatever recalls to memory the original exciting cause, as conversations, the visits and sympathy of friends, or brooding over an all-engrossing subject of contemplation, is extremely apt to renew the paroxysm. Such attacks, following upon remembrance of the emotions to which the primary attacks were due, are termed secondary hysteria, and often constitute a severe and protracted form of disease. But if these remembered emotions happen to be of a pleasurable character, there are many temptations to a patient to endeavour to recal them spontaneously, and thus to induce paroxysms which render her an object of sympathy, interest, and indulgence—if not purposely, at least by a ready surrender of the counteracting power of the will. A certain amount of practice will not fail to increase the facility with which this can be done. And thus arises the third class of cases—those of tertiary hysteria, in which the paroxysms are designedly excited by the patient, through the instrumentality of voluntary recollection, and with perfect knowledge of her own power to produce them. This necessarily supposes a deterioration in the moral tone of the character, and an indulgence in habits of falsehood and deception, which, if not checked, may be carried to extraordinary lengths. It is to this tertiary form of the disease, that all cases of complicated hysteria are to be referred.

It naturally follows, from the views which we have laid before our readers, that the treatment of hysteria advocated by Mr. Carter is essentially of a moral nature. If there is any morbid condition or diathesis present which, by its