Summer. "Whenever the *summer* is like the *spring*, we ought to expect profuse perspirations in fevers." (Aph. vi.) "If the *winter* have been dry and northerly, and the *spring* rainy and southerly, of necessity there will be acute fevers, diseases of the eyes and dysentery in the *summer*, especially in the persons of women and men who are of a humid nature (sebaceous complexioned)." (Aph. xii.) "In *summer*, some of these diseases (referring to those mentioned under *Spring*), as well as continued fevers, ardent and tertian, much vomiting, diarrhoea, ophthalmus, gangrene (*συνελθές*) of the genitals, and sudamina (*ἰδρωα* or *ἰδρωάρα*)." (Aph. xiii.)

Autumn. "Autumn is obnoxious to consumptive persons." (Aph. x.) "In autumn, diseases are most acute, and altogether most fatal." (Aph. ix.) "If it (the autumn) be northerly and dry, it is favourable to persons whose systems are of a moist character, as well as to women; but, in other instances, there will be diseases of the eyes, unattended with discharge, acute fevers, chronic coryza, and, in some instances, hypochondriacism." (Aph. xiv.) "As to the diseases of autumn (among them there are many summer ones), there are also quartan and irregular fevers, affections of the spleen, dropsies, phthisis, strangury, lenter, dysentery, sciatic pains, quinsy, asthma, ileus, epilepsy, maniacal and hypochondriacal affections." (Aph. xx.)

Winter. "If the summer be dry and northerly, and the autumn wet and southerly, during the winter there will be headaches, coughs, hoarseness, coryza, and, in some instances, consumption." (Aph. xiv.) "The diseases of winter, according to our author, are 'pleurisy, peripneumonia, lethargy, coryza, hoarseness, pains in the chest, sides, and loins, headaches, vertigo, and apoplexy.'" (Aph. xiii.)

I have thus attempted to give an outline of the views of Hippocrates on iatro-meteorology, by quoting verbatim the most remarkable passages in his works alluding to this most interesting subject; and shortly I hope to be able to compare these opinions with those prevalent before and after the period in which this great physician flourished. Many and valuable are the observations scattered through the ancient medical classics; and their perusal cannot fail to arouse in the minds of truly scientific men, not only a deep veneration for the ancestors of the medical profession, but a wholesome desire to emulate them in their patient and ever watchful study of the phenomena of disease.

Bridgewater, Oct. 29th, 1853.

ON THE USE OF NITRO-SULPHURIC ACID IN CHOLERA AND DIARRHŒA.

By W. J. ANDERSON, F.R.C.S., Accoucheur to the St. George's and St. James's Dispensary.

THAT oxygen is given off most rapidly from the blood in cholera, may be observed, even during life, by the speedy oxydation of the tissues, giving rise to that horrible emaciation so characteristic of the complaint; again, the cold and blue-coloured surface at a later period shows too plainly the large amount of oxygen which has been expended, and the fearful quantity of carbon which is now circulating in the slowly flowing blood. The patient has now a fluid passing through his blood-vessels, somewhat similar to that which exists in cyanosis, insufficiently stimulating to the nervous system, and consequently blunting the mental faculties (though not by any means obliterating them); and thence arises that strange and terrible apathy about their condition, which choleraic patients commonly exhibit.

Can a remedy then be found, which will readily yield up its oxygen and supply that element to the impure blood, and at the same time, by its astringent properties, tend to check the enormous exudation which takes place from the mucous surface of the intestinal canal? In our present state of knowledge, some of the mineral acids appear to be the best adapted to this purpose; and for certain reasons

about to be explained, a combination of nitric with sulphuric acid seems to me to be preferable to any other. The acid should be administered in tolerably full doses, and repeated at intervals, varying according to the nature and urgency of the case: for an adult we may give, *acidi sulphurici diluti f. 3 ij*, *acidi nitrici diluti f. 3 j*, in a six-ounce mixture, an ounce being the dose; but of course, in younger patients, this quantity must vary according to their age. We know that the blood contains an oxydised compound of iron, and that oxygen is readily taken up by compounds of the protoxide of iron from other oxydised compounds, while on the other hand compounds of the peroxide give up oxygen with the greatest facility. Hydrated peroxide of iron, in contact with organic matters destitute of sulphur, is converted into carbonate of the protoxide. The sulphur contained in the sulphuric acid will most probably restrain this action to a certain extent, and prevent such an excessive formation of carbonate of the protoxide of iron. Carbonate of the protoxide of iron, in contact with water and oxygen, gives off carbonic acid, absorbs oxygen, and is converted into the hydrated peroxide, which may again be changed into a compound of the protoxide.

	Atoms.	Equiv.	Per cent.
Iron - - - -	1	28	77.8
Oxygen - - - -	1	8	22.2
Protoxide of iron - -	1	36	100.0
Iron - - - -	1	28	70
Oxygen - - - -	1½	12	30
Peroxide of iron - -	1	40	100
Protoxide of iron - -	1	36	62
Carbonic acid - - -	1	22	38
Protocarbonate or carbonate of the protoxide of iron - - - -	1	59	100
Carbon - - - -	1	6	27.27
Oxygen - - - -	2	16	72.73
Carbonic acid - - -	1	22	100.00

The large amount of oxygen contained in the nitro-sulphuric acid will then be called into play. It will enter into combination with the carbonate of the protoxide of iron, which will become decomposed, carbonic acid will be given off, oxygen will be absorbed, and the hydrated peroxide of iron will be the result.

	Atoms.	Equiv.	Per cent.
Nitrogen - - - -	1	14	26
Oxygen - - - -	5	40	74
Nitric acid - - - -	1	54	100
Sulphur - - - -	1	16	40
Oxygen - - - -	3	24	60
Sulphuric acid - - -	1	40	100

We have then one atom of nitrogen and one atom of sulphur, combining with eight atoms of oxygen, to form nitro-sulphuric acid.

This plan of treatment, apparently so different from the saline system, is not in reality so much opposed to it as we might at first sight imagine. The same theory will here also hold good, as in both plans oxygen is the important agent which must be called into play to produce a beneficial effect. I do not believe that chlorine has any effect in this complaint; and I am therefore of opinion, that hydrochloric acid in the acid system (excepting as a mere astringent), and chloride of sodium in the saline, are both useless, as neither of them contain oxygen. In the saline treatment, oxygen is derived from other sources; and this, as in the other case, is the important element.

	Atoms.	Equiv.	Per cent.
Potassium - - -	1	40	83.84
Oxygen - - -	1	8	16.66
Potassa - - -	1	48	100.00
Sodium - - -	1	24	75
Oxygen - - -	1	8	25
Soda - - -	1	32	100
Potassa - - -	1	48	48.7
Chloric acid - - -	1	76	61.3
Chlorate of potassa - - -	1	124	110.0

Then, as chloric acid consists of one atom of chlorine and five atoms of oxygen, we must necessarily have six atoms of oxygen, combining with one atom of potassium and one atom of chlorine, to form chlorate of potassa.

	Atoms.	Equiv.	Per cent.
Carbon - - -	4	24	35.8
Hydrogen - - -	3	3	4.5
Oxygen - - -	5	40	59.7
Citric acid - - -	1	67 .. .	100.0
Carbon - - -	4	24	47.06
Hydrogen - - -	3	3	5.88
Oxygen - - -	3	24	47.06
Acetic acid - - -	1	51	100.00
Carbon - - -	4	24	36.4
Hydrogen - - -	2	2	3.0
Oxygen - - -	5	40	60.6
Tartaric acid - - -	1	66	100.0

The combination of any of these acids with potassa or soda forms a neutral salt, containing a large amount of oxygen, which doubtless acts upon the blood in a similar manner to that which has been explained; but these salts do not part with their oxygen as readily as the mineral acids, and are of no service in the premonitory diarrhoea.

This leads us to the "mechanical effect", as the astringent action of the nitro-sulphuric acid has been termed, and which differs merely in degree from that which is produced by the vegetable astringents. In all these latter substances, tannic acid is the active principle; and this being rich in oxygen, readily enters into combination with the various tissues, or more particularly with the albumen and fibrin contained in them—the same process taking place to a limited extent in the living body as occurs during the conversion of an animal's skin into leather. Albumen being an alkaline body, it is necessary that its alkali should be neutralised before any change of this nature can take place: the tannic acid then combines with the albumen as a base, and tannate of albumen is the result. It is, however, certain, that the oxygen plays an important part during this process; or why should this body (*i.e.*, tannic acid, the very best adapted to its purpose) contain such a large proportion of this element?

Whether the theory here propounded be correct or not, it is quite certain that practice, both in this country and on the continent, has shown the utility of the mineral acids; and although, like all other remedies, they are unfortunately not infallible, nevertheless, they are about the best we can employ. In a large number of casual cases of diarrhoea, lately applying for relief, as well as many others which have occurred under my own treatment at the St. George's and St. James's Dispensary, this remedy has proved speedily effective with some very few exceptions; the diarrhoea and vomiting have ceased, and griping and cramps, when present, have been almost immediately removed. Emboldened by the success of this treatment in the adult, I have tried the same plan with children, and found it answer beyond my warmest expectation: it does not, however, act beneficially upon children at the breast; I suppose, on account of its decomposing the milk in the

stomach, and thus tending to keep up irritation; but, providing the child is not sucking, it matters not how young it is, the remedy has just the same effect as in the adult, relieving the griping, and stopping the purging and sickness.

16, Welbeck Street, Cavendish Square, Oct. 25th, 1853.

THE CONDITION OF THE FETAL HEAD AT THE FULL PERIOD OF GESTATION, AND ITS EFFECTS ON PARTURITION.

By GEORGE KING, Esq.

[Read at the Meeting of the Bath and Bristol Branch, September 29, 1853.]

THE state of the foetal head *in utero* may be considered rather an uninteresting and obscure subject for discussion; but it is one that may cause us much anxiety and trouble, as well as difficulty in practice. It is a subject, it seems to me, that has not been noticed, or has not attracted that attention among the professors in midwifery that it ought, and which I consider its importance deserves.

As there are various distortions and different dimensions of the female pelvis, so there may be, and often is, a great diversity as to the character and condition, as well as disproportion in the size, of the foetal skull; and it is to this unusual development and altered state of the foetal cranium that I wish to direct the attention of the meeting, as I consider it to be a matter of much interest to us all. But to the obstetric practitioner it is of vital importance; and it has often appeared to me strange that it should have been so little noticed by authors and lecturers. It is this apparent neglect that has induced me to bring the subject before the members of the Association. I think that it is Smellie who says: "That difficult labours may proceed from circumstances belonging to the child that is to be born, from the extraordinary size of the body, or any part of it, from its being unable to facilitate the birth."

On trying a pain at the commencement of labour, if the membranes are ruptured we generally expect to find the foetal head presenting, giving the sensation of a smooth conical body, more cartilaginous or osseo-cartilaginous, and yielding, but not bony. It is also sometimes found to be hard, compact, firm, and highly ossified, and unyielding; and it is to this unusual state or texture, and want of uniformity in the cranium bones of the foetus, and its influence in connexion with parturition that I am anxious to draw attention. To the accoucheur, the condition of the foetal head at the commencement of labour is of the first importance, as it enables him to judge of the progress, and to form some idea as to the result of the labour.

In the cases to which I would now draw attention, the head will still be found within the cavity of the uterus, and the vertex generally presenting; and, from its hard and firm state, however strong the pains may be, its full rotundity would be retained, and the effect would be the expansion of the neck of the uterus, not the expulsion of the child. Such a head may also be found without the cavity of the uterus, resting on the brim of the pelvis; and if the action of the uterus has been frequent and strong, and suffered to go on until its expulsive powers are exhausted and the patient restless and irritable, we may expect to find on examination, some puffing or a pouch of the scalp presenting; but this long and continued uterine action we shall find has made no impression on the foetal cranium. Having made ourselves acquainted with the condition of the head, we ought never to allow such a waste of time and labour, and such annoying symptoms to be produced, while we have the means of preventing it by removing the cause. This ineffectual action of the uterus is the cause of those laborious and lingering labours which tend to that depression of the mental energy, and exhaustion of the physical powers of the patient, which often are so trying and annoying to the medical attendant, while the head of the child is endeavouring to adapt itself to the superior outlet of the