the condyle of the femur, was restored to perfect health by a six weeks' visit to Kreuznach, and a careful attention to the rules laid down by Dr. Prierie, junior. I have recently had occasion to recommend the use of the Kreuznach bitters in the case of a young lady in whom the ordinary exhibition of ioddides externally and internally failed to remove the violent sluggish glairy diarrhoea of the patient. Its brief employment, however, and the subsequent removal to the sea side, does not enable me to quote the case as one of cure. I mention these cases rather with a view to proving that my remarks proceed from a conviction of the extreme value of the Kreuznach waters and the bitters, than for the purpose of strengthening the arguments of men of larger experience. It appears that the bitters have been employed somewhat extensively in an infirmary for scrofulous children, erected by Mr. Sidney Herbert in Wilton, Hants. If so, it would be desirable that the results of its effects should be made known to the profession, as we might thus be enabled to form a more conclusive estimate of its remedial powers apart from the effect produced by the change of scene and air when patients visit Kreuznach itself. If members of the Harveian Society should have acquired any experience on the employment of this remedial agent, I should be happy to hear of their most favorable success in eliciting their views on a subject which I have ventured to introduce to their notice perhaps with less completeness than it demands, but with an earnest conviction of its importance in a scientific and directly practical point of view.

ON THE VALUE OF NITROUS ACID IN THE TREATMENT OF CHOLERA AND CHOLERAIC DIARRHEA.

By R. H. WHITEMAN, Esq.

Now that cholera has again invaded us, and members of the profession are everywhere considering the best tactics to be adopted to successfully grapple with the disease, it is impossible to value too highly any therapeutick measure that can be proved in the least degree serviceable in arresting the more formidable symptoms. In the valuable and interesting paper by Dr. Cormack, lately read before the Medical Society of London, and subsequently published in the Association Journal, there occur the following remarks:—"Mr. Whiteman, of Putney, informs me he finds nitrous acid so prompt and so satisfactory a remedy in epidemic diarrhoea, that he trusts to it in preference to any other medicine." The following observations are intended to convey a somewhat more detailed account of my experience of a medicine, which I have now exhibited with the greatest possible success to many hundreds of persons, suffering under all stages of the choliodial disease.

The way in which I became possessed of my knowledge of the remedy in question, is soon told. Upwards of twenty years ago, at the outbreak of cholera in 1832, my opinion was asked concerning the probable efficacy of an original prescription, which bore the signature of Mr. Thomas Hope, at that period a medical officer on board His Majesty's Ship Canada. I was then in my novitiate, and thinking the chief ingredient in the formula a somewhat extraordinary remedy for a disease which I had been taught to regard as one frequently produced by an excess of acid in the primary vis, I at once pronounced against it; but was, from the strong representations of its value, and notwithstanding my prejudices, induced to copy the prescription. Shortly after, a very severe and stubborn case of diarrhoea happening to fall under my care, I determined to give the remedy I had noted a trial. The result of its administration to my suffering patient was strikingly favourable—so favourable indeed as to induce me ever after to rely upon it for the arrest of the earlier symptoms of the epidemic, to the exclusion of almost every other medicine.

I may here observe, that both the formula of Mr. Hope, and the directions with which it was accompanied, are identically the same as those at present used by myself, and of which I shall have occasion to speak more in detail in the course of this paper.

My own experience of nitrous acid, which, as I have shown, is no mino one of yesterday, fully bears out the character given it by its originator; viz., that when exhibited before the stage of collapse has completely set in, it has seldom or ever failed to check the progress of the disease; and that even when collapse has existed for some time, reaction has been established through its agency in a large number of cases, in which it has been administered along with the external application of warmth, and other auxiliaries.

In the summer and autumn of 1849, apart from the cases which occurred in my private practice, I returned to the Board of Guardians, as physicians of the district, as many as 541 patients who had suffered more or less from the then prevailing epidemic. My belief is, that none of the cases so returned were other than fully developed cholera—cholera in its insipient stage, or diarrhoea of a decided choleraic character; for I quite agree with Dr. Cor-

mack in thinking that, during the height of the epidemic, the choleric type is impressed upon most diseases, certainly upon all those in which diarrhoea is more or less an urgent symptom.

In quite 530 cases of the 541 returned in the Union books, nitrous acid was prescribed. A great many slight symptoms of the poor and others were administered to at the temporary Dispensary, of which no account was kept; but out of this large number of persons, I had the singular good fortune to lose but eleven, or about one in fifty of those attacked.

It is not been for the assistant, granted me by the Board of Guardians, coming to me with a most decided predestination for the choleraic treatment, I believe that many more patients than I have named above would have been placed under the influence of my cherished remedy. Depending, however, an opportunity of judging of the comparative merits of the several remedies of treatment that were then being employed, I made no objection to a few cases being fairly submitted to the medicine so warmly advocated by Dr. Ayre; but I cannot say that the general result was at all satisfactory to my mind. The prolonged convalescence of the very few who, in my hands, were called under, or other cases of irregular treatment, certainly afforded me encouragement for its adoption in preference to the stimulating, saline, or any other of the many plans then in use.

In the present state of our knowledge of the disease, I have ever held it to be of the first importance to commence the treatment, if possible, before the alimentary stage has given place to the more fatal and dangerous symptoms. If, then, there belonged to nitrous acid but the one property of arresting in the most prompt manner the discharge from the bowels in that stage, I should not be easily persuaded to abandon the remedy for any of those in common use. The acid appears to me to possess, besides its astrin-
gent power, the properties of a stimulant in a remarkable degree; and it is a question whether, in addition to the peculiar action which I know it has of quieting the stomach, and of putting a stop to the violent retching, it does not also exert some influence on the pulvism of collapse, and by that influence tend in many cases to give the first impulse to reaction. I have recorded in my note-book a recent case of choleric diarrhoea, in which the stage of collapse had set in some time before I was called upon to see the patient, but in which the administration of but two or three doses of nitrous acid proved sufficient to restore the natural warmth to the surface. Did space permit, I could transcribe from my notes very many cases of this kind, all tending to show in the clearest possible manner that the acid has some specific influence upon the system in causing an evolution of internal heat.

Whether the action of the mineral acids upon the eco-
nomy be of a chemical nature, or whether their effects in cholera are due to mechanical causes alone, I must leave to those to determine who have more leisure, and are better qualified than myself, to institute the necessary experiments. It is possible, may, exceedingly probable, as Mr. W. J. Anderson has most ably shown (Association Journ., Nov. 4th, 1830), that the introduction of acid into the system may supply a most important aliment (oxygen) to the impure blood in cholera; but I apprehend the astringent properties of such an agent must be referred, in part at least, to other than chemical changes. All sorts of purely speculative opinions as to the cause of cholera are being given at the present time, which it would be worse than useless to discuss; but with reference to those theories which ascribe the disease to certain electrical conditions favorable to its propagation, or to an excess or deficiency of ozone in the atmosphere, all must allow that none of these views are inconsistent with the notion that the immediate cause of the inordinate and abnormally discharges from the bowels may be the irritation of some fungoid growth, or annular deposit, upon the mucous surfaces of the alimentary canal. Believing, then, the fungus theory, as advocated by Mr. Grove, to be as tenable as any other, yet held we have yet made acquisitions. I cannot help entertaining a rather strong impression that, like sulphur, the nitrous acid may possess a powerful destructive action, and by its caustic power tend to the destruction of the fungoid germs in the pulse. Whether this be so or not, it is clear that the effect of the acid is to the bowel from the bowels in the most prompt and efficient manner, and that too with much less detriment to the subsequent health of the patient when it is particularly acids, calomel, or opium, have been largely given with the same intention.

We have indeed, that I was called upon in 1830, to hasten convalescence by the after exhibition of tonics or other medicines; and this I consider one of the greatest recommendations of the acid treatment.

It is an interesting question whether or not the treatment of diarrhoea by acids was known to the ancients. The great majority of cases, it is unnecessary to remark, that "Acid belchings supervening upon lieuteries, where they were not before, are a sign of mending." And again: "Whether this symptom come spontaneously, or be procured by art, it equally cures the distemper." An old author, who wrote at the latter part of the seventeenth century, in comment upon the above remark, remarks: "From hence it may be inferred that Hippocrates supposed acids to contribute to the cure of looseness, because those signs of acidity in the stomach, whether they come spontaneously, or were artificially superseded, generally signified, according to him, a solutum, which diazota action has the effect of the acid from the bowels in the most prompt and efficient manner, and that too with much less detriment to the subsequent health of the patient when it is particularly acids, calomel, or opium, have been largely given with the same intention.

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likely as any other to fail in causing reaction. Having no
faith whatever in the existence of specifics in medicine, it
would be impractical in me indeed to extol this remedy as a
new-fangled one in choler. I have nevertheless just that
faith in it to believe, that none will be found to repent
having put it to the test when once they have been induced
to employ it in the earlier stages of such an inflammation—
a malady, I may add, which has in many districts numer-
ated its victims, not as in this and other favoured places,
by mere tens and dozens, but by appalling hundreds and
thousands.

Puteny, Nov. 21, 1853.

BIBLIOGRAPHICAL NOTICES.

THE SCIENCE AND ART OF SURGERY: being a Treatise on
Surgical Injuries, Diseases, and Operations. By John
Erichsen, Professor of Surgery in University College,
and Surgeon to University College Hospital. pp. 944.
London: 1853.

Mr. Erichsen holds the position at University College
which has been held in succession by Sir Charles Bell, Mr.
Samuel Cooper, and Mr. Liston; and his present work shows
him to be no unworthy successor of these distinguished
surgeons. The last work which we recollect as embracing
in a short compass the science and the practice of surgery,
was that entitled The Principles of Surgery, by the late
Samuel Cooper; a work from which many surgeons of the
present day have derived the soundest information, and
which is still the text-book of numerous practitioners. The
later works on surgery, written by English authors, have
been chiefly monographs on some special department, or
have been confined to the purely operative part of the sub-
ject, or have been abstracts of the existing knowledge of the
science. A place was undoubtedly open for the publica-
tion of a comprehensive work on the theory and practice
of surgery, written by a practical surgeon, who, deriving
his preliminary information from such teachers as Liston,
Samuel Cooper, Syrinx, and Quain, could illustrate his own
views by the experience afforded at a metropolitan hospital.
This vacancy, we think, has been satisfactorily filled by
the work of Mr. Erichsen now before us; which will not only
increase his own well earned reputation as an author and a
practitioner, but will reflect credit upon the chair which he
would so fittingly fills.

The work is divided into three parts. The first division
contains a treatise upon the first principles of surgery,
including inflammation, and the general rules connected
with operations. The second division contains a special
history and treatment of surgical injuries, and their effects;
such as traumatic delirium, gangrene, gunshot wounds,
punctured and poisoned wounds, wounds of veins, injuries
to arteries, of muscles and tendons, and of bones and joints;
injuries of the head, of the spine, of the lung, and of the
abdomen; burns, scalds, and frost-bites. The third division
includes the various surgical diseases, such as abscesses,
uoles, mortifications, erysypela, pyrexia, tumours, scrofula,
phthisis, plebitis, diseases of arteries, of nerves, of bones,
of joints, distortions and other diseases of the spine, diseases of the breast, of the head and neck, of the jaws,
of the throat, and of the breast, hernia, piles, dise-
cases of the urinary organs, as strictured and calculous,
diseases of the male and female generative organs.

The first chapter is devoted to the consideration of in-
creased vascular action as evinced in determination of
blood, and in inflammation, with its consequences, soppura-
tation, ulceration, and gangrene; but these subjects, though
well described, offer no opportunity for special remark.
In
the second chapter, the author takes a practical view of
operations; and many of his remarks are characterised by
sound knowledge and good sense. The following passage
is particularly worthy of commendation:—

* Manual skill and dexterity are necessarily of the first advan-

tage to a surgeon, and he should diligently endeavour to acquire
the art of using his instruments with neatness, with rapidity,
and with certainty: but, as desirable as it doubtless may be to
be able to remove a limb, or to cure a malady, which has in so many
seconds; is important, in a word, as it is to become a dexterous operator, it
is still of far greater importance to become a successful one.

The object of every operation is the removal of disease that
either threatens or already lasts the comfort and utility of existence; and the more certainly a surgeon can
accomplish this, the better will he do his duty to his patients,
and the more successful will he be in his practice. But even then, in the result of an operation, the preservation of life, or the removal of a source of discomfort, is
the thing to aim at. To this, dexterity and rapidity in operating
are in the highest degree conducive; but there are various
other considerations, equally, if not more necessary, the solu-
tion of which can only be afforded by an intimate general
acquaintance with the science of surgery and of medicine. The
diagnosis of the nature and extent of the connexions of the
local disease has to be made; having visited affections must
be removed. The constitution of the patient must be prepared for the operation; the best time for
its performance selected; and, after its completion, the general
health must be attended to in such a way as shall best carry the
patient through the difficulties he has to encounter, and any
sequelae or complications that arise must be met by, and
must be subjected to, appropriate treatment. These, as well as the
simple performance of the operation, are the work of the
surgeon; on the manner in which these are performed, as
much, or even perhaps more, than on the mere manual dexterity
displayed in the operation itself, will the fate of the patient de-
depend. It is well known that the results of operations
are in a great degree influenced by the skill and experience of
the operator; and, in case complications arise, which can
never be anticipated, the operator is the person to whom
the patient can look for relief.

The mode of administering chloroform recommended by
Mr. Erichsen is, to pour about a drachm of this fluid upon
a piece of folded lint, about two inches square, and to hold
it at a distance of about three inches from the nose of the
patient, so as to admit the very free admixture of air with
the first inhalations.

After the lapse of about half a minute, the lint is brought
nearer to the patient's nose, to within a distance of perhaps an
inch, being never allowed to touch: at the same time, a porous
towel is lightly laid over the face of the patient and the hand
of the operator, so as to prevent the escape of the chloroform
vapour, but not to interfere with the admission of air. During
the whole time, it is the duty of the administrator to keep his
hand on the pulse, and occasionally to examine the pupils of
the patient."

In discussing the question of anaesthesia, Mr. Erichsen
prefers the flap-operation, as might be expected of a pupil
of Mr. Liston, who, as is well known, invariably employed
that method with great success. The advantages which
the flap-operation possesses over the circular are, the greater
celerity in its performance, the more perfect coaptation of
the opposite sides of the wound, and the greater tendency
to union of the stump by the skin. In the chapter on
Amputations, Mr. Erichsen gives a tabular statement of the results of these operations at
University College Hospital, in 140 cases. From this sum-
mary it appears, that out of 45 cases of operation required
for injury, 31 cases recovered, and 14 died; and out of 96
cases of operation required by disease, 77 cases recovered
and 19 died; thus the mortality per cent. was in the first