

**Communications respecting the external and internal use of nitrous acid : demonstrating its efficacy in every form of venereal disease, and extending its use to other complaints : with original facts, and a preliminary discourse / by the editor, Thomas Beddoes, M. D.**

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COMMUNICATIONS  
RESPECTING THE EXTERNAL AND INTERNAL  
USE OF

NITROUS ACID;

DEMONSTRATING ITS EFFICACY  
IN EVERY FORM OF

VENEREAL DISEASE,

AND  
EXTENDING ITS USE

OTHER COMPLAINTS:  
**BRISTOL GENERAL HOSPITAL**

WITH  
ORIGINAL FACTS,  
AND  
A PRELIMINARY DISCOURSE,

By the EDITOR,  
THOMAS BEDDOES, M.D.

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LONDON:  
PRINTED FOR J. JOHNSON, No. 72, ST. PAUL'S  
CHURCH YARD,

*By Luke Hansard, Great Turnstile, Lincoln's-Inn-Fields.*

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1800.



COMMUNICATIONS

RESPECTING THE TREATMENT AND PREVENTION

OF NITROUS ACID

IN MONSTRATING ITS EFFECTS

ON THE SYSTEM OF

VENEREAL DISEASES

AND

ITS EFFECTS

ON OTHER COMPLAINTS

BY

JOHN H. BURNETT, M.D.

AND

ALEXANDER LEITCH, M.D.

OF THE SCOTLAND

THOMAS BURNETT, M.D.

—

LONDON,

PRINTED BY HODGKINS, NICHOLSON, AND CO.

CHURCH LANE,

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1855.

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TO HELENUS SCOTT, M. D.  
AND  
HIS ORIENTAL FELLOW-LABOURERS  
IN THE  
FIELD OF MEDICAL IMPROVEMENT.

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GENTLEMEN,

PERMIT me thus to acknowledge the fulness of satisfaction you have afforded me, and the honour you have done me.

ON receipt of your packets, I will confess regretting that they came too late for the Collection I published early last year. My experience then, joined to the effect of other pursuits, had deprived me of all ardour for engaging again in the same task. My regret was, however, of short duration. Opposite feelings arose, and I hereby acknowledge the publication of your new reports, as my willing act and deed.

IT is needless to account for my change of sentiment. The reader who shall set out with unfavourable prepossessions, and he also who shall feel but languid hopes, will experience the same.

To suppress what you deemed worthy to see the light, would have been too presumptuous; and private negotiation with a bookseller is an office too slight to be refused to persons at so great a distance from the mart of British literature. But had you confined yourselves to the path trodden by your predecessors, I should most undoubtedly have excused myself from appearing in your train. Simply to reiterate assertions yet ringing in the public ear,



could add little to their credibility. Perhaps the cry, as a greater number of voices joined in it, would have founded more importunate.

It was, it seems, reserved for India to rear the plant after sowing the seed. I blush for those in Europe, who in their pride would trample it under foot, or in their rage would tear it up by the root. I lament that the very moderate difficulties, attached by the necessity of nature to the occupation, should have deterred impartial but indolent men from its culture. In this corner of Europe so pre-eminent in intellectual exertion, heretofore so devoted to liberty, so open to truth, so dignified by its advances in that noblest of sciences, the science of man, it is mortifying that so few should have foreseen what glorious fruits would spring from your first labours. To behold other regions, usually less favoured by the genius of science, in the full enjoyment of these fruits, cannot, for the moment at least, but add to the mortification.

You speak of observations which for the present you keep back; and there are others, who have proceeded with similar success along the same career with yourselves. Should the scientific world, with one consent, hail a phenomenon so uncommon in climates like those which you inhabit, as the spirit of investigation which you have displayed, I hope you will soon open all your stores of knowledge. To withhold testimony now, is—not to disregard the call of vain curiosity, but—to resist the urgent cry of humanity.

LET me bring one consideration before your minds. The tropical regions of another quarter of the globe abound with British practitioners. For the sick committed to their care, do you not suppose it would be happy if they



they often imitated your late proceedings ? And will they not be more likely to follow you, the more assurances they shall receive that the path in which you have trod leads to the desired object.

IN the West Indies, indeed, what you had done has not been beheld with entire indifference. By degrees greater activity may arise. The information published by Dr. Rollo and myself has reached you. You will perceive, by the following extract of a letter from Dr. Crosse of Nevis, to one of my friends, that more may be expected.

“ I HAVE given the Nitrous Acid with great success in  
“ cases of yaws ; and its effect has been greatly accelerated  
“ by giving two or three drachms of the flour of brim-  
“ stone at night.

“ I FORGET not to remind you of the benefits resulting  
“ from the vegetable acids applied externally, diluted or  
“ not, according to circumstances, leaving the conduct  
“ of it to the ingenuity of the practitioner.

“ As to the particulars, it will not do for me to place  
“ them here, for want of room, but they shall find a place,  
“ with some other observations, when I have more leisure  
“ than the present to communicate them to the public.”

I HAVE at this instant the further satisfaction of learning that Dr. Chisholm is about to confirm, by numerous examples, the efficacy of our new means in several diseases of the West Indies.

THE controversy in which we are at present engaged (if it terminate in the way I presume it shortly must) will be the last medical controversy in which cabal will be able to find so many subterfuges. It cannot fail to be the last in which timidity will be so difficult to tranquillise, or scepti-



cism to convince. You will judge of the method by which I propose to come at once to a decisive issue. Those who incline to the opposite opinion, but at the same time have a sincere attachment to truth, will apparently be obliged (and why should they feel reluctant?) either to accede to my proposal, or to advance another, better suited to the attainment of public conviction.

THE occasional failure of Mercury is conceded: nor has any one denied that this noble remedy at times undermines the constitution of the patient and his disease with equal activity. From these premises irresistibly follows the reasonableness of pursuing into certainty every hope of a milder anti-venereal remedy.

WE have arrived, if enquirers ever did arrive, at incontestible certainty. But I would not at present urge the unwilling too strongly. In Europe I would be content that they should consider what we have proved only as an eligible alternative. I would say to them: "*Where you have your free choice, follow your ancient habits; but follow them not blindfold: turn aside before you have led those who shall commit themselves to your conduct into the grave, or into a gulph of inextricable misery. Turn aside into a surer path, and be thankful to those predecessors who have explored and smoothed it for you.*" Not doubting but you will adopt this language, and that you are disposed to treat with indulgence that scrupulousness which in so grave a concern waits for superfluity of demonstration,

I am,

Gentlemen,

With sincere esteem,

Clifton,  
12th August 1800.

Your obliged servant,  
THOMAS BEDDOES.



## PRELIMINARY DISCOURSE.

OF all enterprizes in which a medical writer can engage, there is none perhaps so hazardous as the attempt to establish an opinion which shall infringe upon the prescriptive right of mercury to be employed in the cure of venereal complaints. Many will refuse him a hearing. Of others, though they may seem to listen, the whole attention will be engrossed by their own feelings and ideas kindling into opposition. Upon minds little inured to reasoning, old associations will return and sweep away the clearest momentary conviction which mere testimony can produce. By-standers, who cannot or will not resort to experiment, instead of weighing will number attestations. Negative will obtain an undue preponderance over positive results; and for a time bold contradiction will pass for refutation.

It is not sufficiently remembered, that on such a subject opposition is not only not to be avoided, but that it is most to be expected from the quarter seemingly most formidable.

PROFESSORS of chemistry, and authors of established reputation, were the foremost to resist the heresy of Lavoisier. In England, in Germany, and in other countries, I believe, those who first espoused it first then publicly appeared as chemical writers.

BUT how much longer time has the opinion of the peculiar powers of Mercury had to strike root? With what a fence of interest is it surrounded—a circumstance not existing in respect to the doctrine of Stahl, and much more affecting the pretensions of new anti-venereal remedies than any other question that can be proposed in the whole circle of the healing art? How much easier is it too, in experiments on inanimate matter, to



procure similar subjects, and to propagate discovery, by giving ocular demonstration to a multitude of spectators?

WITH such impediments the reader must see, that the power of the new anti-venereal remedies being supposed equal even to that of mercury, it was impracticable to introduce them without encountering all the storms and all the wiles of controversial warfare.

SUPPOSING further, the witnesses that have appeared in the present cause, respectively competent to distinguish the nature of the phænomena, and (with perhaps a single exception) sincerely to have related what they believe themselves to have seen, may we not hope to discover some criterion for the erroneous judgment concerning the result, on whichever side the mistake may happen to lie?

BESIDES want of efficacy in the substances employed, several reasons may be assigned for failures. Reasons also may be assigned for the reported success, independently of the operation of the substances employed. Let us enumerate and compare the principal of these reasons.

THE following was perhaps one cause why the use of acids may not have been properly followed up by practitioners, who yet might choose to have to say that they had made the trial. The mineral acids have long been with us in frequent and familiar use; nor has any accidental observation tended to revive that hypothesis which formerly occasioned some abortive trials of at least vegetable acids in syphilis. They manifest no analogy to mercurials; and among the medical practitioners of different denominations, a considerable number may always be found not sufficiently instructed in the history of physical science, to perceive how frequently the man of research has sprung miracles in the common path-way of daily life, or descried them in objects too trivial to fix the attention of an uninstructed eye.

WHICH-



WHICHEVER opinion shall ultimately prevail, the following sheets must, for example, convince the unprejudiced, that Acids, by a certain application, produce effects altogether as remote from expectation founded on common experience, as the cure of the venereal complaint.

By whatever remedies, not local, the treatment is undertaken, the effect is progressive; much time often passes before there appear signs of amendment, and a wise adjustment of the dose is occasionally required. Superfluity in one set of cases, and excess in another, infallibly defeating the practitioner, however efficacious the medicine administered in a different manner might have proved.

THESE considerations justify the supposition, that if some other equal anti-venereal remedy had been previously in use, and Mercury had been to be introduced at the present period, a still louder outcry would have arisen against it, and a greater number of *eminent* surgeons would have pronounced it unfit to be trusted to, while a far less considerable mass of favourable evidence would have been accumulated in the same time. For the reports that affirm the power of the Acids, also render it highly probable that they are in their misuse, less noxious than mercurials.

THE disposition consequent upon taking the lead in the venereal practice, or being much immersed in it, will sometimes produce partial feelings, and partial trials of new anti-venereal medicines.

UNDER correction of persons who know the world, and at the risque of an attempt on the part of a second adversary, as despicably malicious as the first, to raise the hue and cry against the slanderer of his brethren, I repeat my former remark on the effect of interest. I say that some surgeons, from an apprehension that their wheels can no more go on than the mines of Spanish America, without  
the



the aid of the slippery grandson of Atlas, will give a rival remedy no trial, or, what is much worse, an imperfect trial. And these surgeons will as often be those who stand at the top of the profession, as those at the opposite extremity.

IN times like the present, I know also that there will be members of the same profession ready to trample under foot all consideration of gain, and to plant themselves between mankind and the prejudices of their narrower colleagues. It is I believe in the nature of the medical appointments in India, to exempt men's minds from the operation of this species of illiberality. This may be one reason why we have heard so little of failures there. The novelty and importance of the enquiry preventing indolence, an evil that too easily attaches to the oriental system, as well as to the climate.

IT would indeed be happy, did the condition of society permit medicine to be zealously practised under an exemption from immediate mercantile feelings. We should then have less cause to envy the operator upon inanimate substances, his privilege of being able to devote all the faculties of his soul to pure observation. One great source of unfair opposition to feasible new measures would likewise be cut off. Quackery, or false boasting for the sake of gain, would be annihilated; and if too ardent a phrase should escape a medical reporter (*scias eum sentire quæ dicit*) it would be prompted by no other cause but sympathy with the miseries of mankind, which always speaks in a tone perfectly distinguishable from that of the regular or irregular impostor, of him who praises or condemns from oblique motives.

By *disposition*, however, I do not understand the desire of profit alone. I include also the state of feeling that accompanies confined views of the operations of nature in general, and of the articles of the *Materia Medica* in particular. Ill-informed practitioners of medicine will be  
more



more intolerant in proportion as they occasionally, or for the most part, succeed with drugs to which they are accustomed.

THIS sort of bigotry is alike to be met with on a great and a small scale. It might be used as a copious fund of comic incident; and I am not sure if some of our masters of ludicrous narrative have not drawn from it. The observer will not have far to look round him, before he descry some hedge-apothecary so prepossessed in behalf of a combination of his own, as to wonder by what providence invalids, labouring under complaints for which he holds his nostrum to be sovereign, can ever emerge into health from under other medical attendants. The master of the very next shop you might perhaps find pitying the men who fall forth to combat disease, without some other particular piece of armour, which his good genius has enabled *him* to forge. All the while the possessor of neither secret, if he could be traced from one sick-chamber to another, would be seen to have the least reason to envy the other; nor would it fare worse with him who is equally ignorant of both. Such conceits prevail exceedingly with regard to preparations of mercury.

IN some ages and countries it might be possible to trace this spirit to the most dextrous amputator of limbs in a metropolis. He may admit into his practice somewhat greater variety of similar means than his brother of the hamlet; but within his range he shall be equally immured by an adamantine wall of prejudice.

THERE was at Edinburgh, a few years ago, a well-known Irish student of medicine, who had been unfortunate in his amours. His obedience to advice was so little exact, his case so obstinate, or his explanations so prolix, that he found the professor whom he consulted more and more difficult of access. At last he used to waylay him

in



in the street. A few interviews were thus obtained, but things changed very slowly for the better; and at length the professor no sooner espied the unfortunate figure in his place of ambuscade, than, without suffering a word to be uttered, he would cry out—"Go on with the *mar-cray*, Mr. ———!" (that was the way in which he transmogrified the name of the medicine)—"*the mar-cray*, Sir, by all means!"—In like manner, I apprehend, there will long exist surgeons, who, whatever offers, and whether good or ill betide, will inexorably repeat to every patient—"the *mercury*, Mr. ———, by all means; we must go on with the *mercury*, Sir."—Thus, instead of looking to the ultimate effect of their art, by a delusion of association, like that in consequence of which our passions finally resolve themselves into the love of gold, they fix all their affections upon particular means of producing that effect. Some have even been thought to take downright pleasure in the immediate operation of Mercury and the knife; and are not well content without inflicting their full severity. Every sort of pedantry is odious enough, but we find none, except perhaps the pedantry of the statesman, merciless in principle but that of the surgeon. From all other pedants you escape at the expence of transitory disgust; but the surgeon-pedant will amerce you of your constitution, or your limbs.

In a question, therefore, such as it has been my lot to agitate before the public, no requisite is more indispensable than enlarged views of remedial agency. I intend soon to treat the subject at large. At this moment, I shall advance a proposition obvious enough and certain, but not less important to the present successful practice and future improvement of medicine, than any system hitherto devised: *Given disorders are capable of being removed by widely different means*: by means dissimilar in properties of every denomination; dissimilar probably in their first impression

on



on the living system ; and also in the effects they produce between that first impression and the final result. Thus, will not bark, arsenic, opium, temperature, several other physical and some moral means, indifferently, cure many agues ? In cases that would require discussion, I forbear to instance. I even imagine that what we consider as opposites, are capable of removing the same disorder, existing in the same degree. In gross, this seems to hold as to the application of heat and cold to the same kind of local inflammation. When I come to arrange my facts, I think I shall be able to extend this truth much beyond local inflammations. The various cathartics, emetics, vesicants, and diuretics, with which we are acquainted, have not always respectively an identical operation. But it is easy to name several of each class very different in chemical composition and natural character, yet approximating, if not coinciding, in their action on the stomach, bowels, skin, and kidneys. Here, therefore, we find some dissimilar substances, agreeing in their immediate operation, and others coinciding in a distant result without intermediate identity of operation.

WILL the brevity with which I think it proper here to touch this topic give rise to objection ? will it be said, that if there were so great a latitude of remedial power, it ought to have been long ago detected in a greater number of examples ? With persons of limited information and inactive minds, the *argument from ignorance* I know always sounds like demonstration, though even a slight analogy be of the two a safer guide for opinion, where there is no better. But if this latitude can be traced to a much greater extent than is commonly supposed, there is reason to imagine that it will constantly become greater ; for no one, I presume, will believe, that  
all



all the health-restoring treasures of nature and art have migrated into the boxes and bottles of the best furnished apothecary's shop ; indeed who, on examining the history of the *Materia Medica*, would undertake to point out any possible channel by which the thousandth part could have got there ? Could they have come through savages, who miss millions of opportunities of discovery for one that they seize ? and yet to the experience of savages is our *Materia Medica* indebted almost as much as to any other single source—Have we received one useful accession in a century from the *petits maîtres* of medicine, who are constantly rattling along the streets of the metropolis, and haunting the places of fashionable resort ? Was the standing condition of our art, so well defined by Radcliffe's apothegm concerning the disproportion of remedies to diseases, at any time likely to be amended by persons never at pains to combine discoveries in natural history or physics with medical desiderata ? Or, by what or by whom could Hygeia, since she became a goddess, justly say to me,

—————“ *Immensi facta est copia mundi ?* ”

IN truth, can the discovery of remedies in times past, be considered as other than the random shot of a blind man proving successful from the thickness of the game, of which the most and best escapes for want of aim and of pursuit ? Amid the eternal institutions of modern times, imperial, royal, republican, for promoting geography, antiquities, belles lettres, agriculture, the knowledge of the inanimate part of creation, has one been appropriated to animal nature, considered as a science fundamental to human-happiness, and of which the elements are proper to form the most indispensable part of universal education ? What state, what potentate, what association, what wealthy individual,



individual, has thought this object worthy of the smallest sacrifice, even for the chance of finding in the laws of his existence preventives for evils that may become any day irremediably his own?

No proper search having therefore been made, it may in all reason be concluded, that little can be known in comparison of what exists in the great storehouse of nature. So it is more probable, that there are twenty anti-venereal remedies, *in general*, as good as Mercury, and of course, *in particular cases*, better, than that there are none. Unhappily, out of the profession (and out of the profession are numbers who read with industry on the subject of these remarks) it is the prevailing faith, that Mercury alone has been created capable of subduing the venereal virus. I have seen an intimation of a contrary kind, received like as if it were an assertion, that a half sun and a full moon had risen together in the west. The wretches, who are obliged to seek refuge in hospitals, from the ravages of syphilis, appear not unfrequently to have been rendered impatient of the new treatment, by distrust of every medicine not mercurial. Those, by whom their medicines are usually administered, will be filled with a similar persuasion; and often another remedy may have been neglected, with a view to oblige the surgeon to order the true specific. Experiments in common hospitals lose much of their weight, unless the experimenter, or a confidential assistant, administer the medicines; and failures upon the out-patients of hospitals are no evidence. The frequency of failures from careless exhibition, has been satisfactorily deduced from the internal evidence of a number of negative results at the Locke Hospital. See *Collection of Testimonies*; Johnson, p. 151—185.

THE persuasion of the exclusive virtues of Mercury, operates with little less force in a higher sphere of life, where



where in general we experience so much more tractability. Under the very circumstances, in which an invalid, in that sphere, would insist upon mercurials being pushed, he would flinch from a new medicine. If he perceived primary symptoms increasing, or secondary supervening, he would conclude that it was because he had not taken Mercury enough: but the self-same appearances, would be an argument of the inefficacy of Acids.

To a greater or less extent, these and like causes inevitably lead to unfavourable inferences, without any fault on the part of the material which has been the subject of probation. The reader will judge, how far the causes of error on the favourable side are less efficacious. Where a patient, considered as venereal, recovers under the use of any given new medicine, and the cure is not owing to that medicine, it must be, because the disorder is mistaken, or would have given way without medicine, or because mercurials were secretly taken at the same time, or had previously laid the foundation of the cure.

In particular cases, a mistaken judgment, concerning the nature of symptoms, resembling venereal symptoms, may escape the most practised and vigilant observer. Some appearances are allowed, on all hands, to be more equivocal than others. The history of the case may be obscure; the supposed origin of the complaint remote; and where such obscurities concur, no cautious reasoner would rely on the result. But whether the terms of the reports in favour of Acids be considered, or the experience and opportunities of the reporters, the body of evidence will not be assailed on this side.

THE chance of a natural cure, whatever it may occasionally be in slight and recent affections, vanishes before the severity, and continuance, and number of the cases, in which the Acids have been attested to be successful. The number can scarce fall short of fifteen hundred; and  
among



among these occur as bad and as inveterate primary cases as can be imagined; cases verging towards secondary; and a sufficient proportion of secondary, which the efficacy of the new medicines has prevented from being larger. It is easy to talk in the abstract of recovery without medicine; but whoever reads the following abridged statement, will scarce admit the extreme supposition of a spontaneous cure in any one instance, much less in a great multitude; and yet some, much mistaking their talents for necromancy, have thought that by a few strokes, they could blot out all this virulence of diseases with a grey goose quill! It is happy that the invalids were not their patients, provided they would act as they talk!

I. MR. H. of Bristol, ill several years of secondary symptoms; which were repeatedly suspended for a short time (less than three months) by Mercurial courses.

IN autumn 1796, Mr. H. suffered dreadful pain, referred to his bones, on which were large nodes; his sinews were contracted; nose enlarged; he had difficult deglutition; his hands a shapeless mass, and quite useless; every joint was swelled; he lay in bed without power to stir, and was frightfully emaciated. In eight days he was free from his pain. In five weeks all his symptoms, except stiffness of the right fore-finger, were removed by Nitrous Acid. No sensible effect, but some increased flow of saliva.

OCTOBER 30, 1798, Mr. Baynton found him with ulcerated throat, thickening of the left ala nasi, copper-coloured spots, and occasional pains in the bones. He had acquired much flesh, and enjoyed pretty good general health. Afterwards, I understand, that he gradually declined, and not being able to bear Nitrous Acid, died in London. I know not if Mercury was again tried.

II. CASES from the Royal Hospital, Plymouth. Many of which had been vainly treated on ship-board; and



many had gone in without Mercury, the patients concealing their complaint.

1. LARGE irregular foul chancre, of three weeks standing, an enlargement in the groin. Cured by Nitrous Acid, between April 18 and May 11.

2. AFTER different medicines taken on board, had a large deep chancre along the whole penis, buboes, gonorrhoea; symptoms about a month's standing. Two drachms of the strong Mercurial ointment having been well rubbed in from March 29 to April 10 inclusive; he was weak and low, had a violent cough, and much expectoration, streaked with blood; profuse sweats; diarrhoea. Cured by Nitrous Acid, taken from April 11 to May 30.

3. SPREADING suppurated bubo, chancres, and excoriations round the arms; ill for two months; had taken a good deal of Mercury, under which he grew worse. Cured by Nitrous Acid, between May 28 and June 22.

4. CHANCER and two large buboes; contracted ten days before. Cured between May 1 and June 8.

5. LARGE deep inflamed ulcer, swelled testicle, swelling in the groin; contracted a fortnight before. Cured by Nitrous Acid, between May 18 and June 15.

6. BUBOES and venereal eruption. Cured by Nitrous Acid, between April 17 and June 15.

7. SUPPURATED bubo, chancres, phymosis, tending to gangrene. Cured by Nitrous Acid, between June 5 and July 10.

8. EXTREMELY large and painful node coming on for four months; nocturnal pains; emaciation; complaint of four years standing. Cured between May 26 and July 14.

9. PHYMOSIS, with discharge, apparently from chancres behind the glans. Two drachms of strong Mercurial ointment rubbed in, with fumigations of cinnabar  
twice



twice a day for 2 or 3 days. Mouth severely affected; weak, bad cough, pain of the breast, with diarrhoea, and complaint much aggravated. For a month, was kept on a nutritive and tonic plan; then for above another month, had various Mercurials in small dozes, fumigations and poultices, without the least success; for, "he was so weak he could scarce quit his bed; had diarrhoea, increased cough, and sweats, total inappetence, and excruciating pains in his legs and arms at night. Cured between 14 May and 10 July.

10. DISEASE three weeks standing; large and deep sphacelus of the glans penis, which appeared tending to gangrene, paraphymosis, large deep bleeding chancre. Cured between June 1 and July 10.

11. CHANCRES, paraphymosis, and swelling in the groin; contracted ten days before. Cured by Nitrous Acid, between June 17 and July 17.

12. GONORRHOEA, ardor urinæ, phymosis, contracted ten days before; mortification of the prepuce; much fever. Cured by Nitrous Acid, between June 4 and July 17.

13. DISEASE of about six weeks standing; had taken Mercury to salivation; phagedenic bubo, black, foul, spreading, discharging most offensive ichor, eight inches in circumference, with much-inflamed edges. The 26th day after beginning the Acid, it measured in circumference  $14\frac{1}{2}$  inches; under the edges a probe was passed more than an inch. He was very feeble, had cough, sweats, and diarrhoea; a low pulse, no appetite, and involuntary discharge of urine: between June 1 and August 28, took twenty ounces and a half of Nitrous Acid; when his appetite, strength, and flesh were restored, no appearance of venereal complaint existing any where. The ulcer was reduced to the size of a sixpence, a contraction of the leg and thigh remaining, and involuntary discharge of urine sometimes happening. He went on to perfect health,



having taken in all, by October 13, twenty-seven ounces of Nitrous Acid, within one drachm.

FIFTY Cases had been treated with success: in four or five, the Nitrous Acid had failed in the sense hereafter specified.

III. FROM THIRTY-SIX CASES, related by Mr. Ham-mick, in my *Collection of Testimonies*, Johnson, 1799. As that work is not out of print, which is the case with the pamphlet from which the preceding abstract is taken, I shall only select a few, all treated by Nitrous Acid.

CASE 3. Venereal disease contracted two years before; much Mercury exhibited, so as to salivate three or four times; four large deep foul ulcers on the groin, with cal-lous edges, and surrounding hardness; inguinal glands en-larged. Cured between June 20 and July 31.

CASE 5. Chancre healed by a three weeks course of Mercury. Soon after, inguinal glands swell, and hard indolent large swelling, with suppuration, follows. Cured between May 28 and August 28.

CASE 7. Complaint contracted above eleven weeks, during most of which time he had been under the surgeon of the ship, without gaining ground. Phymosis, discharge of matter, foul ulcer from suppurated bubo. Cured between June 20 and August 28.

CASE 8. Disease contracted two months before; Mer-cury seemingly not in sufficient quantity for a cure, but under its use had a diarrhœa for seven weeks, and was much emaciated; three large buboes and chancre. Cured of buboes and chancre, between August 3 and Sep-tember 1.

CASE 9. Complaint contracted about two months be-fore; gonorrhœa, and afterwards buboes, and excoriation on the glands penis; had taken Mercury, which produced a salivation of three weeks continuance, with a violent cough. Cured between June 27 and September 4.

CASE



CASE 13. Disorder contracted about about four months before; medicines taken for three months; mouth sore for ten days; became very weak, and wasted both in strength and flesh; chancres appeared to yield, but on discontinuing the Mercury grew worse; unable to quit his bed; hectic cough and sweats, pain of the breast, nocturnal pain, no appetite, at times diarrhoea; Chancres. Nitrous Acid, from July 20 to September 12. Chancres well; appetite good; pains abated; sweats and diarrhoea suppressed; slight cough; invalidated, that is, declared unfit for service.

CASE 21. Complaint of three months standing; severe nocturnal pains, and eruptions elevated above the skin. Nitrous Acid from July 30 to October 2. Every spot obliterated and cured.

CASE 23. Much Mercury taken without salivation; venereal symptoms of six months standing; nocturnal pains of the tibia. Nitrous Acid from July 30 to October 4; eruptions and pains removed.

CASE 24. Mercury, to a little soreness of the mouth, without effect; gonorrhoea, chordee, foul chancres. Disorder contracted three months since; Nitrous Acid and Nitrous injection, from September 14 to October 12. Cured.

CASE 28. Disorder contracted about three months since; the surgeon of the ship had tried for three months every method with Mercury, and topical applications; large foul deep chancre, much inflammation of the penis, and a wart on the prepuce. Cured between August 15 and October 23.

CASE 29. Disorder of ten days standing; sphacelation of the whole prepuce; the whole penis livid; weak. Cured between August 29 and October 23.

CASE 32. Complaint of eight weeks standing; after gonorrhoea, buboes, which dispersed from Mercury; in a  
b 3 fortnight



fortnight chancre, which became large, and foul excoriations broke out on the scrotum; throat painful; black thick crust on the tongue; nocturnal pains. Cured between September 3 to October 23; tongue not becoming clean till the Nitrous Acid was left off; complaints grew worse for 35 days, under the use of Nitrous Acid; chancre healed 16 days after the disposition to health appeared.

CASE 35. Complaint of six months; in the hospitalship for eleven weeks; took Mercury enough to produce much salivation; in the passage from Cork complaint reappeared; chancres, bad phymosis, discharge of matter from the urethra. Cured between September 11, and November 6.

#### IV. CASES by Dr. CLARKE, of Newcastle, and others.

W. D. Three months ago a chancre appeared upon the glans penis, which gradually spread, and became a very foul ulcer, two thirds of the prepuce, and at least one half of the glans penis being destroyed; the ulcerations have a sloughy bottom, and hard tucked-in edges. Voice hoarse, and throat sore, but not ulcerated; and the patient says he has lately taken cold.

THE only medicine used in cure, believed to be a solution of corrosive sublimate. This has been used five weeks in all, but irregularly for the last three weeks.

BETWEEN November 26 and November 14, ulcer much improved under the use of the Nitrous Acid; no dressing but *unguentum ceræ* on lint.

By November 29, fore nearly healed, but the prepuce hard, and looks full. December 15, no improvement in the state of the fore for three or four days past, though he took half an ounce of Nitric Acid in 24 hours. It was increased half a drachm; and by December 18th, the fore

was



was almost perfectly cicatrised, though some hard emittences remain under the new cuticle.

TEN days afterwards a piece of unsound flesh came out with the dressing, and there was (January 1) a small deep foul ulcer, with a sloughy bottom. January 25, dismissed cured; and re-appeared three weeks after perfectly well; and though desired to return if unwell, had not been heard of as late as August 2d.

THE beginning of this long course improved the patient's appetite, and during the remainder, he was in full health and vigour.

"It will," says Dr. Clarke to the author of this abstract, "naturally strike you, that in particular Cases, much perseverance may be required before the Nitric Acid begins to exert its influence. At two periods, during the treatment of this patient, had it been laid aside, and Mercury substituted, the Case would have apparently afforded a strong instance of the inefficacy of the Acid."

THE length of time which anti-venereal medicines take to exert sensible action, bears no proportion to the virulence or inveteracy of symptoms. This will be seen by adverting to the dreadful Case, attested by Mr. Baynton and myself; and it still more strikingly appears in the Case of Elkins, recorded by Dr. Currie of Liverpool.

ELKINS had been four years ago affected with lues. He had twice gone through mercurial courses; had been cured, and relapsed. The third time Mercury failed. When Nitrous Acid was prescribed, he had a thickening of the pericranium in two different places; the most severe pains, especially in the night, in the bones of his head, arms, and legs, and a large increasing node on the right tibia.



HIS sufferings abated under the use of the Nitric Acid in the third day; and by taking eight ounces in 60 days, he was cured, and was known to continue well near twelve months.

LET the reader refer to the papers by Dr. Rollo, Dr. Currie, Dr. Rutherford, Mr. Cufance, Mr. Macartney, Mr. Cruickshank, and to the contents of the present Volume, and he will see that to this abstract I might easily add a vast supplement of instances which no reasonable man can suppose susceptible of a spontaneous cure.

THE secret use of Mercury is a most improbable possibility; scarce a possibility indeed, in any number of instances, in the naval and military hospitals, upon the faith of which so much of the reported success depends. The experimenters were too much in earnest to avail themselves of the advantages they enjoyed above ordinary hospitals; and they were too careful not to incur ridicule by being the dupes of such shallow artifices. In India, the aversion of the people to Mercury is too decided to allow of the suspicion.

THE idea of combating opposite testimonies by the supposition of Mercury inactively latent in the constitution before the other means were employed, is disproved by those very numerous cases where no Mercury was used, or none within a moderate distance of time before the other powers were applied. For the same reason it is impossible to admit as a solution, comprehensive enough for the difficulty, that the venereal nature of the disorder had been already subdued by Mercurials.

A DOUBT remains whether the Acids act in the same treacherous manner as we are taught concerning the corrosive sublimate. As every imaginable objection would, in its turn, take the field, Nitrous Acid has, of course, been charged with leaving patients liable to relapse. It is a curious indication of the pre-established belief in the  
exclusive



exclusive virtue of Mercury, that individuals concerned in journals of the most opposite spirit are careful to select, from works in which they occupy a very minute portion, every general condemnation of the new practice from writers of small experience, and every vagabond rumour concerning the instability of cures from writers of no experience at all. In this way the unowned and untraceable intelligence communicated by Dr. Trotter has been multiplied into a very serious and alarming warning *to all persons desirous of trying to cure the venereal disorder otherwise than by Mercury*. Just so, dark and dismal hints had been already dropped of persons cured in India relapsing at Edinburgh: but they have never yet shewn themselves in full day. I am truly surprised that we have not oftener heard of relapses.—Relapses were doubtless more frequent after Mercury at a much greater distance of time from its introduction; but on the present occasion practitioners could apply that imperfect knowledge of the signs of recovery which has resulted from long experience with Mercury. It has been boldly predicted that time would bring to light a number of relapses, where an apparent cure had been wrought by Acids: but Time has not hitherto thought fit to exert himself in vindication of the honour of the prophetic herald of his achievements. It so happens that the successful practitioners have been most favourably situated for obtaining a knowledge of the recurrence of the complaint, if it had happened. From the connection between the Navy and the Royal Hospital at Plymouth, such facts must have come to the knowledge of Dr. Geach or Mr. Hammick, especially after the continued and diligent enquiries of the latter. As much may be said of the Woolwich Cases: army surgeons likewise remain close inspectors of their quondam patients. In Mr. McGrigor's examination of Dr. Scott's first patients, I offer to the public a  
most



most precious and full security for the permanency of the cure by Nitrous Acid, in both stages of the complaint.

I shall quote a pretty striking instance of the mischievous effect of the false ideas that have been propagated, with mischievous industry, respecting relapses after the new treatment. An officer in the ——— regiment of militia had repeatedly experienced many returns of venereal ulcers in the throat, at short intervals, after they had been healed by Mercury, and on each repetition of this medicine his constitution suffered so much that his medical advisers no longer could offer him any reasonable hope of benefit from a return to his former course of medicine. On proposing himself to try Nitrous Acid, the surgeon of his regiment assured him that if the complaint should be removed for a short time, it would still return.

At length, suffering and anxiety induced him to consult me. I need hardly state that I advised the trial of the Acid: after an interval of several months, I had the satisfaction of receiving the subjoined letter.

#### TO DR. BEDDOES.

“ SIR,

*Dublin, Jan. 14th, 1800.*

THE least return I can possibly make for your kindness in answering my enquiries relative to the Nitric Acid, is to give you information that apparently it has perfectly cured me of the remains of venereal poison, lurking in my constitution, and attacking my throat; I pursued the use of it, with very little remission, near fourteen weeks, increasing the dose gradually, until, for the last ten days, I took three drachms in a quart of water, without the least inconvenience to my teeth, gums, or stomach. By the advice of an eminent surgeon of this city, I then  
dropt



dropt the use of it entirely, as in the course of the Acid, I had every reason to suppose I had a stricture, which originated in a very bad, and protracted clap, cured two years before. My throat continues perfectly well, and as I am assured, free from any appearance of venereal infection, while my general health is much the same as previous to the use of the Acid. If venereal symptoms should never recur, my restoration to health will be attributable to the use of the Acid only."

IN my reply, I requested information if the symptoms should re-appear, adding, that in this case, I could afford the patient in another Acid an additional chance, equal at least to that which he had already taken. But notwithstanding this conditional inducement, I have received no farther intelligence.

THE subject of relapses I have already recommended for farther investigation. The proportion of primary and secondry failures under Mercury, it is at once desirable and difficult to ascertain. From the fate of the fugitive inmates of hospitals, it will hardly be ascertained with certainty, unless some small gratuity could be allowed them for re-exhibiting themselves at given intervals. From what has transpired during the present controversy, and the inveterate Cases that have occasionally presented themselves at the pneumatic institution, I suspect the occurrence to be much more frequent than is thought. It seems probable that the patients who relapse after treatment in hospitals, rather than return, frequently choose to exhaust their scanty means, when they have any, in the purchase of quack medicines, and that they finally hide their heads in obscurity, and die in all the misery of despair, superadded to all the agony of disease. There are, I fear, relapses, after which the combined power of Mercury and of Acids, will be required to the patient's security.



riety. The plan of treatment I should pursue, where perpetual tendency to relapse rendered the inveteracy of the Case no longer doubtful, would be diversified courses, beginning each before the symptoms removed by the preceding were likely to re-appear.

THESE general considerations will go far towards accounting for the unsuccessful Cases of which the public has heard so much. Three others are however to be added; experimenters usually successful, where they found considerable resistance on the part of the disease, were very properly cautious how they blindly pushed the Acids to an extreme. Dr. Currie thus accounts for his own failures. In general, at the Plymouth hospital, as Mr. Hammick assures me in a letter, dated August 18, 1800, when "the symptoms did not in two or three weeks shew  
" signs of great amendment, they discontinued it, and  
" administered Mercury in some form or other for a few  
" days, and then recurred to the Acid." There was no reason why it should not thus be left to time to settle without violence, the just measure of the power of this agent. But where the practitioner persisted long, he often found his perseverance rewarded; and the number of instances in which the operation of the remedy was slow, are numerous enough to prove that its premature discontinuation often prevented success.

IGNORANCE in the application of a medicine, of which the dose has not been properly fixed, and which was commonly exhibited in a single form, will satisfactorily explain many unfavourable results. Would not Mercury in these circumstances have often been tried in vain?

AFTER all these deductions there may still remain Cases in which no management could render Acids or analogous substances successful. This remainder, compared with the similar incurable remainder after the use of Mercury, will give the standard of the power of each order



der of agents. And with all those who are not disposed to pay a certain essayist the compliment of crying out after him *Conclamatum est*, the importance of settling this standard must be a great motive for desiring still farther accumulation of evidence.

WITH writers, otherwise judicious, and in no shape disposed to shrink from the labour attendant on a just performance of their professional duty, it has been common to represent the accumulation of medical testimony, as *endless* and *unsatisfactory*. Such language is no doubt singularly soothing to two great divisions of the members of the medical profession: to the resolutely idle; and to those whose whole industry is employed in gathering gold. The sentiment, however, is little conformable to accurate views of the manner in which medicine has gone on to improve, and in which it must long continue to go on. For the elements of medical opinion, are observation and testimony; the latter comprehending what is received orally from teachers of various name, is always considerable, and often constitutes nearly the whole mass. Accurate observations are the natural corrective of inaccurate. Instead of whining over the voluminous attestations in favour of the anti-venereal virtue of guaiacum and sarzaparilla, the more numerous attestations which obtained for Mercury a just triumph over these rivals, ought to be quoted as an eternal monument of the utility of multiplying observations? Truth can only be endangered, and its struggle with error prolonged by the silence of competent witnesses. And their competence being presupposed, the sooner they appear, and in the greater number, the sooner will truth be established in her rights. Shame is still at hand to deter authors from venturing abroad with intentional falsehood, or hazarded relations. And in the light which one will throw upon the other, we shall more clearly discern the genuine from the spurious document.





ment. Some modest men may prefer imparting their experience personally to their friends. But spoken words are too fugitive to convey full and safe information, or to be susceptible of a satisfactory examination, and it is now hardly necessary to expatiate upon the advantages of the press. Neither can I sympathize with men, candidates for the highest of all human trusts, who shrink in idea from the labour of studying a few additional volumes, when such labour is to qualify them for the discharge of that trust.

ONLY let the testimonies be circumstantially delivered, let them be the very reverse of such as have been ushered into the world under the names of Mr. B. Bell, Mr. Heavifide, and Mr. Blizzard. To these, in the present stage of the controversy, we may apply the words of a member of the surgical profession, whose labours have not succeeded in proportion to his candour and general good sense: "Information concerning the efficacy of any particular mode of treatment ought never to be conveyed to the public in the form of general, unqualified and positive declarations, until confirmed by experiments made upon a large scale, and sanctioned by time and the concurring testimony of others. Where precautions of this nature are slighted and neglected, the records of medicine will be perverted from their principal design, and prove but too often the repositories of misconception and error." *Pearson on Lues Venerea*, 1800. p. li. What would have been said of the asserters of the anti-venereal power of Acids, had confined themselves to general terms? Or, in consequence of some revolution in logic, has evidence less circumstantial, become sufficient to prove a negative? to prove it too in the face of positive testimony?

BUT it is probable that the analogy between Mercurials and Acids, in their effect on the mouth, and on the salivary glands, will more impress the public than hundreds  
of



of additional reports, ever so favourable. The circumstances under which this has been ascertained, are not indifferent to the question. They crown Dr. Scott's merits with that noblest of all decorations to the character of a philosopher, *a love of truth, not to be shaken by hypothesis or ambition!* From "a few, although decisive" cases, this physician told us, that he supposed bathing in "Nitrous Acid, properly diluted with water, to be still "more effectual than its internal use." This supposition he published on the 5th of August 1797. On the 20th of October, of the same year, he wrote, by one of the overland dispatches from India, to the editor, to suppress, if possible, the paper which held forth that hope. Such was his anxiety to avoid injury to the cause in which he was engaged, or deceiving the world, that he would not wait for the ordinary conveyance. In opposition to such a fact, and with nothing whatever in the conduct of any individual to support him, an author has basely insinuated against the successful experimenters with Acids, a charge of eventual perseverance in their assertions against conviction.

THE same Dr. Scott, under date of June 14th, 1796, taught "that Nitrous Acid affects the mouth, by impregnating the habit, like Mercury, with pure air. "It certainly," says he, "produces a flow of saliva, a swelling of the gums, and, when carried to a great extent, a pain about the throat and jaws that exactly resembles the effects of Mercury (*See Collection, p. 3.*) Notwithstanding the similar experience of some observers in Europe, I disbelieved this similarity of effect between Nitric Acid and Mercury, as firmly as I have always done, and still disbelieve the impregnation of the system with oxygen by either agent. With many others, I imputed all these effects to the sharpness of the Acid, brought in contact with the gums, and the excretory ducts of the salivary glands.



glands. The important communications, now published, obliged me to alter my opinion; and I have endeavoured to ascertain this important coincidence by trials, which, taken with the other reports, will, I hope, be sufficient to put an end to all uncertainty.

EXPERIMENT I. The first patient for whom I directed the acidulated bath, had used a mercurial girdle for the itch, and had, in consequence, for many months been subject to severe universal pains, with increasing weakness and emaciation. She went rather above the pit of the stomach, for seven or eight successive days, into tepid water, rendered very sharp with sulphuric Acid. No mitigation of the complaint took place; but one of the family told me that her mouth had become unaccountably sore. I myself saw the patient but once.

EXPERIMENT II. Mrs. ———, long subject to pain in the right hypochondrium, and under the right scapula, with a dry cough and fallow complexion; was seized early in June last with the most violent inflammation of the liver I had ever witnessed. This was treated with most rapid success, by bleeding and saline aperients, with cold water and ice freely taken.

ON the return of the former state, I directed the feet and legs to be kept for an hour twice a day in warm water, sharpened with sulphuric Acid. A drink slightly acidulated with an Acid, consisting of sulphuric Acid and oxymuriate of potash, to the quantity of sixty drops in twenty-four hours, was at the same time taken. On the ninth day, there was a fulness of the throat, a roughness of the palate, inflammation of the gums, and pain in biting firm food, with increased flow of saliva.

THE skin of the legs was very sore, and covered with pimples. I desired in this and all the other Cases, that where  
any



any spot was particularly fretted, it might be covered with oil.

THE event of these cases led me to model my subsequent trials on a stricter plan, as far as I could do it consistently with the advantage of my patients.

EXPERIMENT III. A lady, after deep and continued sorrow, complained of great foreness on pressing her hand under her right ribs, and of much occasional pain in her right shoulder, while an enlargement and induration could very distinctly be felt in the right hypochondrium. She had gone through several courses of mercury during the last eight years, of which the latter could not be kept up long, on account of the debility they produced, and also on account of an intolerable pain in the back part of the head and the nape of the neck. I had myself been baffled, like my predecessors, in attempting to cure this patient by a cautious use of mercury, and was obliged very soon to desist. During the latter part of this process I had discovered that the lower extremities were anasarcaous, and that the urine was very scanty. Gravel in the kidneys had long subsisted. After all effect of mercury had ceased for several weeks, I proposed the use of tepid water, acidulated with sulphuric acid. After bathing the legs five times, for an hour, taking the acid half bath four times, and the whole bath once for the same time, she had a copper taste identical, according to her own sensations, with that produced by mercurials. She had also sore mouth, spongy gums, tumefaction of the submaxillary glands, and greatly increased flow of saliva. The liver was particularly sore on pressure, and the right shoulder very painful. The aching about the hindhead was also severe.

AN accident which befel the bathing apparatus defeated my intention of keeping the mouth sore, as long as the  
 c constitution



constitution would bear the process, or till the disease should be subdued.

EXPERIMENT IV. In a fortnight the whole affection of the mouth had subsided, and the bath was resumed. After ten bathings the mouth became again as fore as at first, and the liver tender; the skin not being so much fretted as to oblige us to desist from the bath.

ON Wednesday, August 27, 1800, the mouth was forer, and the salivation more copious than under any course of mercury. One morning the tongue was extremely swelled. The bath has now been continued a month, with but one day's intermission, but with some variation of strength. The time of immersion has been from an hour and a quarter to an hour and a half, the degree up to the neck; for when I found there was no danger of sudden and violent salivation, I directed the full bath.

ON the first foreness of the mouth the liver became more sensible; but it is now much less so.

THE spirits are good, the strength increased, and the whole personal condition the opposite of that produced by mercurial courses of equal severity in respect to the mouth. The aching of the head and neck was at first, as usual, excited, but it has now nearly subsided.

THE urine has increased under the use of a grain of digitalis twice a day, and the œdema is diminished.

I CARRIED with me a surgeon, who had much attended to the species of fœtor produced by mercury; and he pronounced it identical in the present case.

EXPERIMENT V. A gentleman, who had been much afflicted with a liver complaint in Bengal, and had brought away with him the symptoms of chronic hepatitis, had nearly lost them all, from the supervention of a state verging on melancholy. Not being able to fix him to  
any



any other plan, after the vain use of nitrous oxide gas for some time, I hoped to diminish the sum of his painful sensations by the effect of acid bathing on the chylotropic organs, which I supposed, from various circumstances, not to be completely restored to a healthy state.

AFTER eight immersions of an hour and a half each, twice a day, he had soreness of the mouth, some increased flow of saliva, and a brassy taste, with distinct redness and swelling of his gums. During part of the course he had a return of a former diarrhoea, a complaint then very general. For two or three days he observed that he had a strong inclination to stool after quitting the bath. A drachm of camphorated tincture of opium in chalk mixture stopped the violence of the diarrhoea, and for the last three days of bathing he had no bowel complaint. Till within three weeks of his beginning to bathe, this patient took daily from forty to eighty drops of the compound acid, with no affection of the mouth whatever.

EXPERIMENT VI. A lady, who, after much chagrin, had anasarca, attended with indigestion and imperfect secretion of bile, bathed her legs in acidulated tepid water for four days, an hour each time, and then used the acid bath five times. Her mouth became sore, she spit more than usual, and had a coppery taste.

EXPERIMENT VII. After the interval of a fortnight (the soreness of the mouth having gone off) she was salivated afresh, by seven immersions up to the neck in the acid bath; at the same time she took small doses of tincture of digitalis. The soreness of the mouth lasted five days after quitting the use of the bath. The skin was made very sore.

EXPERIMENT VIII. A lady, considered as having laboured above twelve years under chronic hepatitis, complained to me of pain in the right shoulder; she was sub-



ject to bilious vomitings, and the stools shewed want of bile in the intervals. She was excessively hysterical, and particularly subject to those numbnesses, which in some hysterical people occasion much groundless apprehension of approaching palsy.

ON bathing six times, rather above an hour each time, she complained of a coppery taste and a sore mouth, with roughness in her throat. Her skin was very sore in patches, but oiling prevented any great inconvenience. After the two first baths this patient mentioned to me, that instantly on going into the water considerable pain in the hypochondrium and right shoulder came on, and that they continued till she came out.

EXPERIMENT IX. After a fortnight, the mouth being in a natural state, five baths produced in the same patient a coppery taste, inflamed gums, and pain on biting hard food. The same soreness in the right hypochondrium and shoulder now also occurred on the three last emersions.

EXPERIMENT X. An accidental interruption of nine days now took place. The soreness of the mouth went off. A third course of acid bathing has now been continued once a day for eight successive days; the effect on the skin during the first three days was considerable, and induced me to lower the strength of the bath: eight ounce measures of sulphuric acid, instead of sixteen, were used for nine successive times, and no sensation whatever was perceived in the mouth, and the skin was hardly at all fretted. The bath was then raised to its original acidity, and now, on the morning after the fourth bath, the coppery taste followed; the next day there was redness of the gums, and soon after soreness, and a little flow of saliva: in this patient I did not choose to carry it far. The skin was fretted, and eruptions had taken place before the coppery taste was perceived. From the variation of this  
last



last experiment it appeared that, in a patient particularly susceptible, no affection of the mouth followed as long as the skin was very slightly stimulated.

EXPERIMENT XI. The author used the bath six times; he stayed in from an hour and a quarter to an hour and a half; each time his skin smarted more than the former, but there was hardly any eruption. A metallic taste and foreness of the teeth were slightly felt after the two last immersions. An acute illness, brought on by exertion during the excessive heats of August, frustrated his design of pushing the experiment to a greater length.

EXPERIMENT XII. "At the suggestion of Dr. Beddoes, with the view of ascertaining the effects of the experiment, being in perfect health, I began, on August 12th, to use the acid bath. During the interval between August 14th and August 20th, I bathed once every day (generally remaining in the bath for an hour) without perceiving any notable effects.

"ON August 21st I neglected to bathe: On the 22d I bathed both in the morning and at night, remaining in the bath nearly an hour and three quarters each time. On this day slight eruptions began to appear on parts of the skin: On the 23d I bathed twice; my gums, examined in the morning, appeared redder than usual about the bases of the teeth; towards the evening they became a little painful: On the 24th the redness and foreness of the gums were increased, I thought the secretion of saliva greater than usual; my breath had no fœtor. At this time I was obliged to desist from the experiment, in consequence of a violent diarrhœa, which had been slightly felt during the two preceding days, and which was probably occasioned by causes unconnected with the acid bathing.

"H. DAVY."

September 1st, 1800.



EXPERIMENT XIII. Lord ——— applied to me with anasarca of the limbs and lungs, accompanied by great general debility. The effusion being removed by digitalis, I advised the acid warm bath. It was first used fifteen times (twice a day for five days) from half an hour to fifty minutes. The three last days a brassy taste, with tenderness of the jaws, was felt.

EXPERIMENT XIV. On resuming the bath, after an interval of eight days, during which a smart diarrhoea occurred, and using it ten times (for three days twice a day, and sometimes for near or quite an hour) the brassy taste recurred, and severe soreness of the mouth. The following is near the close of the patient's own diary during this process: "Aug. 24, bathed the 19th and 20th times; staid each time 50 minutes in the bath; felt in the evening smarting on several parts of the skin; diarrhoea nearly gone off.

"AUGUST 26. Diarrhoea quite gone off; bathed an hour this morning; irritation of the skin increasing, obliged to rub with sweet oil on several parts; renewed the acid." [*It is to be observed, that during three days of this second course, imperial, with a little compound acid, had been used as a beverage.*] "Bathed 50 minutes at night; took an alterative pill," [*containing a quarter of a grain of powder of digitalis*].

"AUGUST 27. Perceived a slight swelling and soreness on my palate near my upper teeth, the brassy taste strong after breakfast, frothiness of the mouth, spitting, the irritation of the skin rather increasing; and in several parts scaliness and roughness. Bathed in the evening 50 minutes."

AFTER the mouth was affected, one day as I was examining his gums, which were red and turgid, the patient perceived my drift, and said *his mouth was excessively difficult to affect by mercury.*



THE strength of the bath was from 12 to 24 ounce measures of sulphuric acid of commerce to about 80 gallons of water. The bathing-tub was not an æconomical one.

THE temperature of the bath was between 90° and 96°, as most agreeable to the patient. From these experiments I pretend not to deduce general conclusions as to the effect of acids externally applied, or to demonstrate the utility of acid bathing. I have it only in view to prove that it produces a metallic taste, renders the mouth sore, and often (when carried a certain length) inflames the salivary glands. I am not at all entitled to decide whether a smaller or greater irritation of the skin will produce in a greater or less degree the sympathetic effect of salivation. I can conceive that a violent direct impression may prevent the effects on the mouth. As little can I determine the comparative effect of different acids; though I am not disposed to ascribe any prerogative to nitric acid, on the supposition of its more readily giving the skin oxygen. I do not think that the inflammation of the mouth sooner ceases than when excited in equal measure by mercury. The present is certainly a very mild and manageable process. I have no scruple to believe that the female part of my patients would have been infinitely more disordered by mercury, administered so as to produce an equal apparent effect. In one case, indeed, that stands strictly proved, I can at present say nothing, as to the effect of acid bathing in promoting the excretion of gasses from the skin. Some curious experiments might be made on this subject; but the operator must take care not to be deceived by the air which the acid expels from the water with the assistance of heat, and which settles in great abundance on the skin. Except in Experiment III. and Experiment VI. I could never perceive the breath tainted; and of these it was only in Experiment III. that the true mercurial foetor was distinctly



tingly perceptible, and on disuse of the bath the sore mouth lasted from six to nine days. I could not push the process, for the sake of gratifying my own curiosity, at the risque of needless suffering to my delicate patients. Where the salivation is full and continued, I expect the breath will be affected very nearly as by mercury.

SHALL we then conclude that so unexpected a coincidence between mercurials and acids establishes their identity of operation? The coincidence itself is the most powerful of all possible indirect arguments for the antivenereal efficacy of acids. I am, however, far from being persuaded of the identity of the impression of these medicines either on the stomach or the surface: I suspect some disparity in their first action, and, by consequence, in the long train of actions branching out from that. The common happy effect of acids on the digestion, and the consequences thence resulting, seem to constitute an essential difference. General schemes (particular cases will deviate from any general scheme) for mercurials and acids, drawn out *according to our present information and the usual doses*, must differ considerably; as

ACIDS.	MERCURY.
First impression, or x.	First impression, or x.
Improved appetite.	Morbid sensibility.
Unknown associate motions thence arising.	Feverishness, and unknown associate motions, or y.
Strong pulse.	Weakness and emaciation.
Diuresis, i. e. indirect debility of the kidneys.	Sore mouth. Salivation. Disease cured.
	ACIDS.



ACIDS.	MERCURY.
Irritated skin, if freely used externally.	Consumption in some ha- bits.
Sore mouth—and	Ulcers in others.
Salivation—more easily in the nervous.	Pains.
Disease cured.	Tumours.
Full health and vigour.	Habit commonly reduced.

It is respectably attested that the sulphuric and nitrous acids are very efficient in counteracting troublesome symptoms, when mercury too powerfully affects the mouth (they also cure ulcers left by mercury.) Some difference, therefore, must necessarily exist in the action of these substances on the mouth (unless we should ascribe the alledged effects to the local operation of the acids); and it may frequently be observed of similar substances, applied to the living body, that they have some consequences in common, and others not so.

I HAVE, I confess, been greatly surprized that acids, freely used, should not oftener have occasioned injurious constitutional effects; and I should yet expect, that when made to affect the mouth strongly, they would sometimes produce a diseased change in the habit. If the present publication should stimulate the curiosity of the medical world, this will be one of the points most deserving to be carefully ascertained. Mr. Macartney has already recorded some facts well worthy of attention on this head.

I SUPPOSED that the sulphuric acid would fall little short of any other, and I sought in my experiments the advantage of œconomy: I was not unmindful of the small quantity of sulphate of lead contained in the oil of vitriol of commerce: but no unpleasant symptom arose from



from this combination; and none, I believe, has ever been suspected to arise from it, when the acid is given ever so long internally.

MR. PEARSON, of the Lock Hospital, our latest writer on lues venerea, professes to have had large experience of sulphuric acid in the venereal disease. Besides its power in checking the too severe action of mercury on the mouth, he tells us, "that when a bad state of health prevents the immediate introduction of mercury into the body, or when the appearances are too equivocal to warrant a prompt decision on the true nature of the disease; and more especially if dyspeptic symptoms, attended with profuse perspirations, harass the patient and exhaust his strength, the elixir of vitriol will commonly remove these supervenient symptoms, and give a temporary check to the progress of the disease: nevertheless, the virus will soon proceed in its destructive course, even under the constant exhibition of the acid. I have often seen the elixir of vitriol, given in the quantity of two drachms a day, evidently arrest the progress of venereal ulcers of the tonsils, and sometimes venereal blotches will fade and nearly disappear during the use of it: these apparently beneficial effects, however, are never permanent. I do not mean to affirm merely, that the symptoms will recur when the acid is discontinued, but that the disease will make a certain manifest advance at the very time at which this medicine is given in as large doses as the stomach ought to receive it."

MR. PEARSON then goes on to observe, that he has found the vitriolic acid very efficacious in healing ulcers that remained nearly stationary, after ceasing, under the use of mercury, to be venereal. He attests the power of this acid to check the excessive action of mercury on the mouth; and concludes by stating, that "some accounts have been lately published, tending to prove the antivenereal



"nereal virtues of the vitriolic acid. The experience of many years has, however, been so little favourable to expectations of this kind, that *I have not thought it necessary to make any further experiments with this medicine.*" On Lues Venera, p. 146, 148.

THE sheets, destined to distribute among mankind so imposing an opinion, were still reeking from the press, when the property of salivating, without coming in contact with the mouth, already ascertained with regard to the nitrous acid, was found to belong also to the sulphuric. I know not whether this peremptory rejection of sulphuric acid from the class of antivenereals, founded on the presumption that the experience of twenty years had made Mr. Pearson sufficiently acquainted with all its qualities relative to the venereal disease, will have its due effect in the present controversy. I know not whether objectors will go on to say, that they "do not mean to give the merit of a new discovery to Mr. Scott, or to any of the modern experimenters, for acids have been long employed by other practitioners in medicine." But it is clear that this very previous use of acids has thrown an immense *difficulty* (whatever become of their *merit*) in the way of modern experimenters; for it is evident that if the sulphuric acid had been a substance before unknown, what had been lately said of it would have induced Mr. Pearson to give it a trial. I know not whether the facts related in the preceding pages will shake the credit of trials with other acids, not more decisive than those at the Lock Hospital with the sulphuric; and whether they will teach the public to suspect that many of the reported failures have arisen merely from insufficient administration of the new remedies. The thousand tongues of prejudice and cabal may still proclaim through the land, that after so much experience, none of the remarkable virtues of acids could remain unknown:  
but



but I trust, that some of those whose trials have been hitherto unsuccessful, and that many who have been altogether deterred from trials, will now have no scruple to avail themselves, *in the first instance*, of the external and internal use of acids, *whenever mercurials threaten destruction to a patient's constitution, and whenever they have been used in vain.*

It has been said, that "five trials by an old surgeon of large experience, may chance to be worth *fifty* by some other experimentalists." *May chance!* No doubt, an instructive truism! Its reverse is equally a truism, and equally instructive. In experiments, with remedies that come into competition with mercury, large experience, joined to advanced years, brings with it full as many disadvantages as advantages. There have been few accredited errors, in defence of which the senior members of the faculty, to which the question belonged, have not flown to arms; and the dominion of truth has been extended only by the constant defeats of those who have fought under the banner of age and experience.

ALAS! with what difficulty do men in general depart from the path upon which they are once set! And we physicians and surgeons! trained and accoutred for our occupation as we generally are, how justly may many of us be compared to animals, whose sphere of vision is circumscribed by blinkers! On we pace everlastingly in our old footsteps, perceiving just what lies before us, while every thing to the right hand and the left escapes us; or if, by a chance turn of the head, a glimpse of unaccustomed objects comes across us, we take fright!

THE strongly attested efficacy of nitrous acid in the hepatitis and the dysentery of India, supports its claim to similitude of medicinal character with mercury. In respect to hepatitis, we shall probably not be long without details.

I HAVE



I HAVE seen temporary benefit from acids in one case of inveterate chronic dysentery. A gentleman had been subject, for above two years, to bloody stools, with intensely severe tenesmus; he had taken mercury, ipecacuanha, opium, and many other medicines.

WHEN I first saw this patient he had then ten or twelve loose mucous stools, with lumps of hardened fæces, and flakes of coagulated lymph, occasionally blood, and excessive tenesmus. The pulse did not exceed eighty. After some days deliberation, I determined to recur to the acid bath; I was afraid of the free internal use of a mineral acid. He had bathed eleven times, with no effect on his mouth or complaint, when he was seized with violent pain in the back, which confined him to his bed, and went off, after a large discharge of blood by stool. To such seizures he told me that he had been long liable. On the cessation of the pain in his back his dysenteric symptoms were so severe, and his weakness so great, that he was apprehensive of never being able to return home; and asked me whether he had not better make the attempt, in order to settle his affairs. The doubt whether he would be able to support a journey of near 300 miles, and the probability that a complaint, which had been regularly reducing him, would soon wear him out, made me venture to persuade him to give the acids a full trial both internally and externally. My business was to prevent such an interruption as we had lately experienced, if the means were at all capable of preventing it.

THE patient was accordingly directed to bathe twice a day for an hour; and, after trying cautiously whether he could bear the acids internally, either sixty drops of compound acid, or two drachms of nitrous acid, were taken daily for a week. This plan progressively diminished all his complaints: his stools were gradually reduced to one or two, figured and without any preternatural appearance  
or



or tenesmus. The appetite became good; he gained strength greatly; and his feelings were different from what they have ever been since his illness. At the end of the week, partly in consequence of a change of weather from hot to cold, he found the acid liquor too much, and it was reduced to one drachm of nitrous acid, properly diluted. After the fifteenth bath, the skin was so sore and so full of eruptions, that he bathed only once a day; and even so the soreness of the skin, particularly of the legs, increased: but the pain he had formerly experienced, and the evidently fatal tendency of the complaint, encouraged him to persevere. Indeed his spirits, strength, and appetite were so good, that he considered his itching and smarting as but a small drawback upon the pleasure of existence.

THE state of the mouth continued, till the nineteenth immersion of the second course, so perfectly unaltered, that I imagined I should here meet with an exception to the salivating power of acids: soon after that, however, there began to appear red and swelled spots on the gums.

THE next day he observed that his teeth were more than usually furred. (Mercury sometimes has a most striking effect in determining the secretion of tartar). Two days afterwards the mouth was very sore.

IN addition to the analogies of hepatitis and dysentery, it will, I think, be allowed, that if less mercury cures or salivates, when mineral acids are used at the same time, this is some argument in favour of their similar powers. Here we find opposition of testimony: that on the affirmative side is strong. "In several instances," says Dr. Currie, "where, after a course of nitrous acid, it has been thought advisable to have recourse to mercury, a very small quantity of the ointment (in one case two drachms only) has produced complete ptyalism. This has occurred so frequently, that I do not think the

" conjunction



"conjunction accidental." (*Collection*, p. 134.) My acute correspondent, X. Y. Z. deduced the same conclusion from several cases, adduced as unfavourable to nitrous acid. (*ibid.* p. 101—155.) Dr. Mitchell of Chatham, who was first a sceptic, and afterwards an unbeliever, asserts as his final opinion, that "a smaller quantity of mercury seems to effect a cure, and the appetite and general health of the patient to suffer less than when mercury *alone* is used." In one of Mr. Hammick's letters will be found a remark, founded on his experience in twelve hundred cases, that probably the conjunction of mercury and nitrous acid would be preferable to a simpler plan. Dr. Rollo, who seems to have put this idea to the proof much more fully than any other person, has favoured me with the following summary of his observations :

*LETTER from Dr. ROLLO.*

DEAR SIR, *Woolwich, 14th June, 1800.*

THE information you have communicated to me, that you were furnished with materials, confirming many interesting facts relative to the efficacy of nitric acid, as an antivenereal, and of curious particulars with regard to its operation, has not failed to afford me satisfaction; especially as I continue to hold the opinion, that the new remedies deserve every commendation.

THAT the nitrous acid, &c. can remove both primary and secondary states of the venereal disease, are truths established, and partly acknowledged.

BUT whether these remedies will entirely supersede mercury remains to be ascertained.

THE result of my experience and observation since the  
second



second edition of my work on the Diabetes Mellitus, &c. inclines me to think that a combination is the most effectual and certain plan of cure.

SUCH combination, consisting of small quantities of mercury, and considerable doses of the nitrous acid, or oxygenated muriate of potash, daily exhibited; or commencing with mercury, or the new remedies, and pursuing either for a fortnight, then discontinuing the one which may have been employed for the same time, and so on alternately.

BOTH these methods I have adopted with success, and have not observed a return of the disease in any form. Though I cannot determine entirely the most preferable, yet I am disposed to think the alternative mode will ultimately prove the best of the two. By either, the disease of remedy simply, or the disease arising from a combination of the effects of the remedy and the disease, have not been produced.

THE digitalis is a remedy of great concern: to its utility we can add our testimony, in many cases of ulcerated lungs, of dropsy with increased action, &c.

I HAVE had more experience in corroboration of what has been advanced on diabetes mellitus, which, with farther accounts of our practice in lues venerea, will form a supplement to my work (it is probable) in the course of next winter.

I am, &c.

To Dr. BEDDOES.

J. ROLLO.

[In a Letter, dated 17th August, Dr. ROLLO adds:]

YOU ask me whether I have marked the proportion of failures in venereal cases from acids, &c. and mercury.—I really have not; as in our practice, when strictly adopted,

we



we have never failed with the former, except secondary symptoms, returning after the primary symptoms have been cured, may be so denominated, and in such, so far as we have gone, I assign the most failures as following the mercurial treatment. You also ask, *whether it was from any failure that I abandoned the simple acid treatment, &c. or for greater dispatch.* It certainly was not for any subsequent failure; but it was that I might ascertain farther the effects of a combination of the new remedies and mercury; and having been satisfied with its efficacy, I next wished to ascertain whether such combination should be by giving them daily together, or by an alternate use of them; and I am inclined to prefer the latter. In these ways I think the cure is not only expedited, but it is probable it may be the most determinate, as I have not hitherto met with any appearance of secondary symptoms: nor has (as I mentioned in my last letter) the disease of remedy simply, or the disease arising from a combination of the remedy and the disease, been observed.

J. R.

DR. RUTHERFORD had before said, "I have lately seen  
 "an instance or two where the disease was so inveterate,  
 "and the constitution so broken, that neither the nitrous  
 "acid nor mercury were adequate to check the progress  
 "of the disease, as trial had been made of both in suc-  
 "cession, but without any conspicuous advantage. In  
 "these, therefore, the acid has been used at the same  
 "time with the mercury, and the two together have  
 "produced a most favourable change in almost every  
 "symptom." (Reports, Johnson, 1797, p. 67.) This fact  
 I know is capable of being easily reconciled to the opinion  
 of those who do not look on nitrous acid as an anti-  
 venereal: and I believe the practice of giving nitrous  
 acid with mercury, has been extensively introduced in  
 d the



the course of the discussion concerning its anti-venereal virtues.

I do not, in this place, propose to relate what I have witnessed of the action of the nitrous or other acids in siphylis, though in some most inveterate secondary cases, they have fully shewn their asserted powers. But it may be desirable to lay before the reader, the means of approximating towards an idea of the dose employed by the East India practitioners. This purpose will be fully answered by the following statement of Mr. Davy, who has attentively examined the varieties of nitrous acid. The comparison is grounded on the datum furnished by Mr. McGregor.

“ THE specific gravity of the impure nitrous acids of commerce, is rarely above 1.47, or below 1.36. 35 grains of common pale yellow nitrous acid of specific gravity 1.46, gradually mingled with 114 grains of water, filled after agitation and rest at 65°, a space nearly equal to 130 grains of water, consequently its specific gravity was 1.146, and 100 grains of acid of spec. grav. 1.146. contain nearly 24 grains of acid of 1.46. So that allowing the expansion of strong nitrous acid, on increase of temperature, to be greater than that of more diluted acids, we may suppose that at temperatures between 80° and 90°, one ounce by weight of acid of specific grav. 1.144, is nearly equal, with regard to its quantity of real acid, to two drachms of the strongest nitrous acid of the shops, i. e. the acid of 1.47, and to more than three drachms of the weakest acid, i. e. that of 1.36.”

BEFORE the receipt of the papers that form the present collection, I had no expectation that mention would ever occur, during the present generation, of the use of nitrous acid in sea scurvy. In 1792, I brought forward a number of arguments tending to prove, that if the gross chemistry



chemistry of inorganic matter were at all applicable to the phænomena of life, it was in no instance so applicable as in scurvy. It was evident, that if vegetable acids cure this disease by oxygenating the system, certain other acids and nitre must at least be equally efficacious. The proposal then made for employing these substances, seems to have been the immediate inducement for trying nitrous acid with the self same view in other disorders. But in adopting a principle, it is necessary to be consistent: and as the trials soon afterwards very candidly made by Dr. Trotter, turned out contrary to the hypothesis (except that acid of tartar appeared to answer in very slight cases of scurvy), I very unequivocally abandoned my hypothesis.

THE experiments I now publish, are much more numerous than those of Dr. Trotter; and in no respect the less worthy of credit, because his, with different substances, had a different result. They by no means, however, tempt me to take up again the opinion which I had cast away. Neither do they induce me to propose nitrous acid for the cure of scurvy, where lemon juice or nitric acid can be had. But they shew the propriety of providing ships with an article so unalterable, and occupying so little room as nitrous acid. The acid compounded of sulphuric acid and oxymuriate of potash, may be still better; especially as this takes away the disagreeable taste of water, tainted by putrifying extractive matter.

I HAVE at this present moment nothing to observe on diabetes mellitus. But, while I revise these papers for the press, I have the satisfaction of seeing Dr. Scott's accuracy in another particular, confirmed by Dr. Gilby's report of several cures of diabetes by nitrous acid, a circumstance not indifferent to the present question, so far as its issue depends on the character of a principal party. Neither could I wish for a better instance in support of



my opinion, that uniformity of operation is not indispensable in remedies for the same disease. The comparison of Dr. Gilby's facts, with those published by Dr. Rollo, is curious; and I flatter myself that a collection of such examples will change the taste that has hitherto prevailed for theorizing in medicine.—In my youth I remember to have been often told of a Shropshire squire, whose humour it was to send his servants out in the evening upon the highroads to invite Welch travellers, mounted upon their little ponies, to his house. While the rider was entertained with the greatest apparent cordiality, persons in the stable were busy sewing up the steed in an ass's skin; and the joke consisted in the half-intoxicated master's inability to recognise his own beast in the twilight. A difference in the two cases must however be acknowledged. Our theorists go about their work with all gravity; and nature, on her part, does not stand quietly like the poor poney to be stitched-up in the ass's skin.

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THE WIT THAT ENLIVENs, and the bitterness that envenoms a controversy, perish together as soon as a question is settled. Towards settling the question, however, it may be of consequence to expose foul practices, as the knowledge of these go into the scale against the side by which they are resorted to. Partly for this reason, and partly because I have been called upon by spectators, whom I believe to be impartial, I shall notice an allegation that has been dragged into day since my collection appeared. To do justice to the talents that distinguish the literary champion by whom it has been brought forward, would require an essay as bulky as his own; so copiously might his depth, his dexterity, his candid care not to misunderstand or misrepresent, and, above all, his delicate regard to bring



bring up no witnesses, not morally and intellectually competent, be illustrated from his first and second lucubrations.

I WOULD not rashly depreciate that gay and variegated race, but I believe that scarce any parrot, ever so well taught, whether he be a *ver-ver* or of whatever name and colour, has been known to repeat words and phrases\* more pertinaciously, or much more meaningly. Where the credit of a discovery is denied to Mr. Scott, and the modern experimenters, because they employed no substance but what other practitioners have employed, we bow to that sagacity and equity which point a man out as fit to preside in the capacity of Lord High Chancellor over authors' claims. For, undoubtedly, the views with which these saline bodies were given in old and new times were identical; the bodies themselves were the same; the doses were the same; all the diseases to which they were applied were the same; and in spite of the clamour we have heard about supposed *oxygenants*, the practice of medicine in no quarter of the globe is materially altered from what it was, and it is every where likely to continue the same. Then, again, what penetration is shewn in the exception to the Woolwich experiments, because saturnine lotions, nitrated mercury, this and that gas, were locally applied? Do we not know that a hundred and fifty such cures could be thus effected without any internal medicine? The thing is done every day. Here I should quote a line of Virgil in praise of those who have the gift of discerning causes, only I am afraid it would be re-quoted; and there are admirers of a certain essay, who rather wish that the writer had resorted to the store-room of his own erudition, or to the *dictionary of quotations*, for a few scraps of poetry, a little less stale than those which season

\* Mr. Blair's essay, p. 11. sub. fin. *passim*.



his pages. In a former pamphlet I had occasion to exhibit at large the prophetic powers of my hero. On the 16th of October, 1797, he issued a paper, plainly condemning the new practice, notwithstanding his own experience was then very slight and not unfavourable. I shall here reproduce my abstract of the cases on which he founded a public judgment, adverse to the successful experience of others.

"CASE I. Page 125. April 4—Dismissed, apparently cured by nitrous acid—had previously taken mercury—not heard of since.

CASE III. P. 164. April 10—Medicine taken from the 10th to the 17th only—prescribed at first in the dose of 4 drachms—patient complained heavily of pain, nausea and cold in the stomach: saying the mercury (previously taken) *had done him good, but that this medicine had not.* What wonder!

CASE III. P. 166. May 11—Pustular eruptions only—2 drachms of nitrous acid produced gripes and sickness at first—then agreed well—continued to the 9th of June—after rubbing in 12 drachms of mercurial ointment, spots fade rapidly—cured by the ointment.

CASE IV. P. 126. Sept. 21st—Bubo—slight phymosis, preceded by gonorrhœa—rubbed in a drachm of mercurial ointment on the 16th, 18th, and 20th—on the 21st, began the acid—2 drachms—by the 25th of October, quite well.

CASE V. P. 128. October 5th—nitrous acid—2 drachms occasioned vomiting, pain in the bowels, and general tremor—with more syrup, it agreed well. By the 16th of October, one bubo lessened a little.

CASE VI. P. 240. October about the 6th—No effect of the nitrous acid specified previously to October 16th.

CASE VII. P. 209. Oct. 6th—nitrous acid (2 drachms) at first caused violent pain and sickness every  
dose



dose—on adding 8 oz. syrup, agreed well—Oct. 12th, spots faded—17th, ulcerations of palate healed—Till Nov. 2, getting better—afterwards, *omnia in pejus ruere*.

CASE VIII. P. 167. Oct. 6—Two drachms of nitrous acid much disagreed—medicine sweetened, and next reduced to one drachm—Warm bath—Oct. 16, his nose is well, and his pains are alleviated—The patient's elopement cut short the trial."

THESE are, I think, all the cases before October 11th, 1797. Those occurring between the 11th and 17th, could throw no light on the powers of the medicine. Though three out of five *exhibited favourable*, or not unfavourable appearances about the date of the circular letter, (Essay, pages 130-2. 188.) and the two other cases afford no contrary presumption whatever (pages 157. 222.)

ON considering this abstract, or recurring to the original, many readers would certainly pronounce that the treatment with the nitrous acid was full of promise; no reader, I believe, would pronounce it discouraging. How, then, is the contradiction between the observed facts, and the circulated judgment, to be explained?

ON the case which I numbered case III. my critic says: "I described a case wherein was no venereal symptom besides 'eruptions, which were of the pustular form.' "The Dr. having occasion to notice this case, writes in a truly laconic style: 'pustular eruptions *only*:' as if these were not sufficiently characteristic of the lues venerea."\*—To this, if dealing with an ordinary mortal, it might be replied that the Dr. did not write "pustular eruptions *only*," as if these were not sufficiently characteristic: neither did he, there or elsewhere, insinuate an opinion disparaging to venereal eruptions. All he meant was an abstract, which if true and full, was the better for being

\* Ib. p. 320.



laconic. But the Dr. feels himself under the same obligation to his commentator, as Pope was to Warburton, for finding out a meaning for his *Essay on Man*, of which he himself had never dreamed.

THIS is still but little in comparison of the annihilation by a single dash of the pen, of all the experience of X. Y. Z. I know (and it is an extremely simple matter of fact) that the person designed by this signature has sedulously treated thousands of venereal patients, and I believe that if the hundred most *experienced* practitioners in Europe were picked out, X. Y. Z. would stand nearer the top than the bottom of the scale. Yet my author drily tells the public (and apparently without knowing who X. Y. Z. is) that he is *inexperienced*.\* See what great men will perform, and bold men attempt. We do not conceive how even Omnipotence can have controul over the eternity that is past.

IN another matter in which he contradicts me, my critic surpasses all common understanding, and soars high above the ordinary language of mankind. I had said that the principal successful experimenters were either not sanguine or remarkably sceptical. I meant to expose what I still think the rash application of a trite maxim. I could have called on Mr. Baynton to witness, that I originally gave no credit to what was said of nitrous acid in siphylis: no more did the Plymouth experimenters; and those at Woolwich were silent before trial. But "hold," says my author, "that is a mistake," and he fills me eight or ten octavo pages † with quotations, expressing conviction subsequent to experience. This points to a great improvement in metaphysics; for the consolidation of hope and possession must inevitably render the theory of the human mind more concise, and it is an idea altogether original; not however more original or more in point,

\* *Ib.* p. 320.

† *Ib.* p. 328 & c.



than adducing the opinions of a number of persons who all wrote previous to the present controversy, declaring mercury to be the only true anti-venereal specific.\* To a vulgar understanding it would seem that to bring up an old generalization in the teeth of new phenomena, is in logic pretty much what punishing people by an *ex post facto* law is in justice.

THERE is no end to the resources of genius: and genius is sometimes as visible in the adaptation of an old, as in the invention of a new expedient. We know something about the stratagems employed by ancient legislators, to give sanction to those institutions which were destined to civilize mankind. Now mark a modern stratagem for *substituting useful truth in the place of error*, which is much the same thing, or, at least, as meritorious. The sentences in our reviews strongly resemble the oracles of old. They proceed authoritatively from unseen lips. How does our author avail himself of this fact? he becomes partner of a review, perhaps its projector. Thus in his own case he himself, or a colleague for him, can pronounce decisions† under a neutral mask, and he can quote these decisions from his own review; and readers, ignorant of secret history, may take them in as good part as if they came from perfectly indifferent judges.

BUT I must drop a subject of eulogy, to which I am unequal, and come to the allegation which I promised to notice.—Some time then in the winter of 1798-1799, I received an account of venereal cases from a Mr. Charles Brown, of whom I then knew nothing. I afterwards saw a publication of his on scrophula, which satisfied me as to the author's talents. In spring 1799, he called upon me, and among other things told Mr. Davy and myself, that "*Mr. Blair*," with whom he professed much

\* Ib. p. 273.

† P. 277, &c. &c.

intimacy,



intimacy, "*had given the nitrous acid to his syphilitic patients in a very slopping manner.*" I saw him no more, and desired not to see him. The following letter has since been published under his name, and, by its station in the book, seems designed to crown all the arguments and all the attestations against supposed new anti-venereal remedies.

"*To Mr. BLAIR.*

"SIR,

"I SOME time ago communicated to you and to Dr. Beddoes, several cases of supposed cures in the lues venerea, by the new plan of treatment. Justice to the public requires me now to mention, that *all* these patients experienced a relapse of their disease; and that my former sanguine expectations, respecting the anti-venereal effects of oxygen gas, have not been realized in the numerous trials I have since then made. Give me leave also to suggest, that I have lately been to the Medical Pneumatic Institution at Bristol, where Dr. Beddoes and Mr. Davy were trying the newly-discovered *aërial* anti-syphilitic medicine: but many of the cases I then saw were very equivocal, and unfit for decisive experiments.

"I am, Sir, &c. &c.

"CHARLES BROWN."\*

Hatton Garden,  
December 18, 1799.

THE following will be a sufficient commentary upon this document:—

"CIRCUMSTANCES, with which you are acquainted, enable me to affirm, that Mr. Charles Brown was

\* Ib. p. 339.

"never



“ never at the Medical Pneumatic Institution after April  
 “ 1799.—Whenever he was there I was present—I do  
 “ not *believe* that he saw any of the siphylitic patients.  
 “ I am *certain* that he never examined one of them. The  
 “ new compound mentioned in your notice, as you will  
 “ readily recollect, was not discovered till July 1799. The  
 “ few cases of lues that occurred at the Institution before  
 “ that period, were treated with nitrous acid, and no  
 “ other substance.

“ HUMPHRY DAVY.”

To Dr. BEDDOES.

No aërial medicine has ever been tried in siphylitic cases at the Pneumatic Institution: and I distinctly recollect that Mr. Charles Brown never saw, much less examined, any venereal patient there. Indeed, I feel assured that no such patient had then applied. It will be remarked how pat the relapses in *every* case, and the failure of oxygen gas (of which Mr. Brown before spoke well) occur all at once. Had I to deal with an ordinary opponent, I would not fear to assert, that he who could converse with Mr. Brown three times, and afterwards lay any stress on his authority, must be disqualified for sitting on evidence touching the life of a lap-dog. No man, I suppose, would choose the alternative. I might add of the author and publisher of this self-refuted lye,

*Neve in nos stolidæ convicia fundere linguae  
 Admiremur eos.—*

BUT I leave it to others to judge them both. In their respective works there are grounds enough for such as choose to examine closely.

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HAVING reflected with anxiety upon the means by which the public may be most completely satisfied, with  
 the



the least chance of embracing an erroneous opinion concerning the real power of acids in venereal affections; I have fixed upon the following plan; it is easily practicable, and must, I think, be decisive. The letter is to be understood as addressed to the members of the surgical profession in general, with such alterations as would adapt it to those who have published no opinion. It is scarce necessary to say that I must have previous intimation of the intention of any one who chooses to co-operate with me by sending a patient; otherwise I might be overwhelmed by their multitude; whereas by a certain number of trials my end would be fully answered.

*To Mr. PEARSON, Surgeon to the Lock Hospital.*

SIR,

I SHOULD in vain endeavour to make any impression upon you, by expressing my regret that you should have joined your authority to that of those who deny the anti-venereal power of acids. You are satisfied with your own conclusions. To me they appear unwarrantable. In my apprehension you ought to have inferred that certain saline substances are true anti-siphylitics, but that they fail in some cases, because we do not possess them in a sufficient variety of forms. Indeed, at the conclusion of your work, you do make a small concession of this kind in favour of nitrous acid.

BUT it is useless to multiply words. And you have proved yourself too candid and inquisitive to oppose the accumulation of facts. But let the accumulation of facts be at last effectual: let it relieve from their perplexity those who are embarrassed by contradictory testimony: let it put our conclusions above the cavils of men whose productions are stained with the variation of each soil in the districts of wrong-headedness, misrepresentation, and chicanery. I do not, indeed, yet pretend to know  
the



the power of acids, in comparison with that of mercury. But I affirm (what you deny) that acids will cure the venereal disease, both in its primary and secondary form; and that their pretensions ought to be contrasted with the performances of mercury. I challenge you to co-operate with me in bringing this point to an authentic determination. Do you select a certain number of patients, labouring for the first time under the symptoms of secondary lues, and such as have taken no mercury, or none lately. If you accept my challenge, I request you also to let two or three other surgeons attest the cases.

I CHALLENGE you further to select a number of other patients who have relapsed, after one or more apparently proper courses of mercury. The writings that have appeared during the present controversy, swarm with relapsed cases. From this and other sources of information, it appears to me, that after a succession of relapses, small dependance is to be placed on mercury; for a single course does not secure the patient, and often the medicine cannot be repeated, because it saps the constitution with little mitigation of the disorder.

I NEED not say that you should be nice in your choice. We must have persons of regular conduct, and concerning whom we maybe able to obtain information at a considerable distance of time. Such as would be content to live at their own expence, and to receive gratuitous treatment, would be most desirable. The expence, however, of maintaining a few patients, shall not be an obstacle to the experiment. I hope to find persons willing to join their contributions to my own, for the sake of solemnly deciding so great a question.

I SHOULD be extremely obliged to you for the communication of means for guarding against the secret use of mercury. I will speedily acquaint you with such as appear to me the most effectual, with other particulars. And  
whether



whether you concur with me or not, I will endeavour to execute this scheme. In such a problem, when I think myself within a single step of incontrovertible certainty, I am not disposed to stop short.

I do not expect from you the objection that acids may perhaps be permanently effectual in India, but not in England. The necessity of swallowing a large bulk of liquid, is indeed more severely felt in colder countries; and I am happy that we have obtained the convenient resource of external application, a method which I expect will daily come more and more into use with other medicines. But, indeed, I believe the army of reserve of affirmative facts in Europe, is too strong for any one to venture an attack in this quarter.

In consenting to confine the experiment to secondary cases, do not imagine that I admit the insufficiency of primary cases, in a certain number, and of a certain inveteracy, as a test for anti-venereal remedies. Whatever will cure such primary cases as I have seen cured by acids, such as have been cured in Plymouth Hospital and elsewhere, will also cure secondary cases. These, indeed, seem sometimes to be as much exceeded in intensity by primary cases, as they may themselves exceed primary cases in extent.

SHOULD it prove that the host of observers, who affirm the power of acids, have not been deceived, I will not dissemble with you that I have further views. I hope, in this case, that some spirited enquirer will have the courage to try, by inoculation upon his own person, whether certain acids diluted only so far as to be tolerable for a short time by any surface of the body, will not destroy the specific quality of venereal matter. In the acid that should do this, we might possess the double advantage of rendering innocent this morbid poison, and of determining the living parts to an action different from the venereal action.

Such



Such a substance, especially if it be at the same time volatile, may furnish an instrument effectual for diminishing the frequency of the venereal disease.

I HAVE not taken upon me thus to throw down the gauntlet, as thinking I exclusively possess the medical prowess necessary for the achievement: but it is the part of the upright and consistent man not to shrink from the strictest probation of what he believes true and useful.

ONE of those surgical sages, who, with scarce any sanction from experience, have stepped forward to pass a general condemnation upon the acids, remarks, that "what was done successfully at Plymouth, at Woolwich, at Bristol, &c. ought to have been done at the Lock Hospital; for truth is the same every where." I have shewn, from the evidence of dates, that in the first decision at the Lock Hospital, truth was not waited for. And if it may be supposed that the nature of the venereal disease is the same within the limits of our island, still the art of treating it by the new remedies may have differed as widely as the climates of Greenland and Bengal. But if you send me triply and quadruply attested London cases, and I effect cures at Bristol in the most public and authentic manner that can be devised, will not the suspicion, that in the event of contradiction, always attaches to individuality and locality, inevitably vanish, and with it every other form of doubt be dissipated? But, indeed, upon the whole, there already appears to have been a much more public inspection of the successful cases than of the unsuccessful.

I am, Sir,

very respectfully, Yours,

THOMAS BEDDOES.

Rodney Place, Clifton,

October 10, 1800.

END OF THE PRELIMINARY DISCOURSE.







MR. MAC GREGOR'S  
AND  
DR. SCOTT'S  
LETTERS IN PROOF OF THE PERMA-  
NENCY OF CURES  
EFFECTED  
IN VENEREAL CASES  
BY  
NITROUS ACID.

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SIR,

*Bombay, 2d September, 1799.*

IN July 1798, I transmitted to you, from the case books of the 88th regiment, an account of my trials in lues venerea of the Nitric Acid. I at the same time promised, that if at a future period any circumstance should occur that affected the permanency of the cures, I would apprize you of it.

MORE than a year having elapsed since I sent you the above account, and as during that period the cases have been almost always under my eye, I am now enabled to speak with confidence regarding the cures.

THE symptoms did recur in *Foxe's* and *Bell's* cases; but all the others remain perfect cures.

I HAVE used the Acid in a variety of venereal cases since I last wrote to you; but my unsettled and changing situation did not allow my keeping journals of the cases, sufficiently correct to transmit to you. One cure was, however, so remarkable, that I still recollect the

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circum-



circumstances very well. In Jersey, in August 1798, I visited an officer of artillery, who had his mouth affected three times; by calomel, the blue pill, and, lastly, by the blue pill ointment; but two buboes still remained stationary, and resisted leeches and every external application. He had likewise ulcerations of the fauces, and began to complain of his shins at night. He was of a scrophulous appearance, had an irritable stomach, and his general health was much impaired. I made him at first continue his mercurial medicines, and along with them for the first week gave him small quantities of the Acid (a drachm and a half daily). This had the effect of giving him his appetite, but the venereal symptoms remained unaltered. I then ordered him to leave off mercury entirely, and got him by degrees to take of the fuming Acid of the shops, five drachms and a half daily. By the beginning of November every venereal symptom had disappeared; and when I left Jersey he had perfectly recovered, and was doing duty with his corps.

At the time the 88th regiment embarked for India, I had three cases of lues venerea on the Acid treatment; but they used it only ten days, when my stock of it was exhausted. However, during the time that they did use it, chancres in one, a bubo in another, and ulcerated fauces in a third case, were gradually disappearing. In order to see if the favourable change was owing to the Acid, I determined to give no medicine for some time; but in the course of eight days the symptoms in all gained ground so fast, and the cases looked so badly, that I judged it unsafe to delay longer; I exhibited mercury, and under its use the three cases were speedily cured.

SINCE my arrival in this country, I have given the Acid in fourteen venereal cases; two of these are of some standing, and with secondary symptoms, and all the others are cases of recent infection. Of these, nine are now



cured ; three are under cure ; and with two the Acid has failed, but for causes that can be readily assigned. I shall not at present detail these cases to you, as I conceive that in six or twelve months hence, when a cure or failure can with the utmost certainty be pronounced, they will prove much more satisfactory to you. I shall at present only remark in general, that in gonorrhœa the Acid has not been so successful in my hands as in lues ; that the gums seem to be more easily affected by the Acid in this country than in Europe ; that by bathing in it the mouth appears to be sooner affected than by taking the Acid internally ; and that I think I have seen the lues run its course more rapidly, and appear with more inveteracy in this country than in Europe.

THE Dysentery has for some time been very prevalent here. I have met with the greatest success by treating this disease, as well as some cases of Hepatitis, with the Nitric Acid. When a patient applied early enough to allow me time to affect the mouth, I have never yet lost a case in either disease.

My experience of the effects of the Nitric Acid is, however, on a very contracted scale, compared to that of many practitioners in this Presidency ; but in particular of Mr. Scott, who has obligingly indulged my curiosity to see the first cases where he used the Acid. From an examination of these cases, I am firmly convinced of its having effected a permanent cure in some of the most inveterate venereal cases that occur.

As I conceive that the ascertaining such a point as the permanency of cures for seven years, will be highly important, I enclose Mr. Scott's letters, with the cases.

JAMES MAC GREGOR,  
Surgeon 88th Regt.

To Dr. BEDDOES, *Bristol.*



*Bombay, September 1st, 1799.*

DEAR SIR,

I SEND you an outline, taken from memoranda kept at the time, of some well marked cases of Syphilis, for which I employed the Nitric Acid. Those cases occurred during the first fourteen months that I used the Acid as a remedy for that disease; and are so far valuable, as they prove that the cures are permanent after a period of so many years. It has been said, that the cures made by the Nitric Acid in Syphilis, are less to be depended on than those from mercury. I have reason to be of a different opinion. I believe that when the Acid has been given for a proper length of time, and where it has shewn sufficient indications of its having affected the mouth and the whole system, that the cures from it are very complete. The least favourable cases for the Nitric Acid are those where mercury (an analagous remedy) has failed; there it will often fail; but it will also be frequently attended with success.

I MIGHT have given you a much greater number of cases; but these were among the first in point of time; and the people who are the subjects of them are still on this island, the last man only excepted. You have yourself examined the first four, and have had their story from themselves. You expressed to me a desire of seeing some of the people who first took the Nitric Acid for Syphilis. If you think the matter of sufficient importance, I have no objection to your forwarding their cases to Dr. Beddoes.

You



You can in some measure judge, from what you have already seen at this place, how far I was authorized in forming the conclusions that I have done, with regard to the effects of this Acid in Syphilis, and in some other diseases.

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No. 1.

*October 21, 1793.*

ESSOOF WAUSKER BALLA, æt. 34,

HAS a very extensive ulceration of the throat and *velum palati*. The uvula is nearly destroyed, the *amygdalæ* are much ulcerated, the *ossa palati*, I fear, are carious. He can swallow nothing solid, and when he attempts to drink liquids, a part of them passes through the nose. He attributes all those complaints to an old gonorrhœa, which he caught on the late service in Malabar, and for which he has taken no remedy. He has been ill for several months, and is daily getting worse.

November 22. He took the Acid for a fortnight, when he began to get relief. He has now drank it for a month. The ulcers are nearly healed, and I expect in a few days that they will be quite well. The Acid has kept his mouth fore for twenty days past.

THIS man you have examined. He speaks English well, and is very intelligent. You still see from the appearance of his throat, and roof of his mouth, that the disease must have been very extensive. He has never taken mercury; he got well from the Acid alone, and has remained so ever since.



No. 2.

October 20, 1793.

BAIDASS KISSURDAS, a *Shroff*,

ABOUT two years ago had chancres and bubo, for which his mouth was made fore with mercury. Those symptoms were, however, in a short time afterwards, followed by pains in the joints and bones, especially during the night: for those symptoms he took several courses of mercury, which relieved them for a time, but they always returned again. When I saw him first, he had nearly lost the use of his hands, arms, and legs, and he was distressed with nocturnal pains in his joints and bones; he had a copper-coloured eruption on many parts of his skin.

HE drank the Acid for a fortnight before he found himself any better; he then began to mend, and, in the course of the month had, in great measure, recovered the use of his hands, arms, and legs. He still feels at times some pains in his legs, which I imagine arise from his being obliged in his still feeble state to walk a good deal. He complains of some uneasiness in the chest. Let him discontinue the Acid, which has made his mouth fore.

November 27. Has left off the Acid for a week past. The weather is very cold. He feels some pain in the soles of both his feet, and also in one of his ankle joints. Let him use the Acid again as before.

HE took the remedy for three weeks more, when he found himself pretty well. This man has remained free from any syphilitic affection since that time, without the use of any other remedy.



No. 3.

October 24, 1794.

SHAIK MAHOMET BALLOO, *a Servant of the Rev.*  
A. BURROWES.

THREE Months and a half ago he got chancres on the prepuce, which are now extensive: he has done nothing for them besides applying to them some common ointment. In six weeks after the ulcers appeared, he felt pain in almost all his bones, which was worse at night. The pain in the shins is very severe. The joints are stiff, and are used with difficulty. A copper-coloured eruption has appeared on the skin, which is worse about the lower extremities. The skin below the nails of the fingers and toes is surprisngly thickened, and the nails are gradually destroyed by a kind of ulceration that begins at their extremities. The skin of the soles of the feet is thickened, and there are sores of a scurfy kind about both the hands and feet.

I MADE him touch the chancres with caustic, and I gave him the Nitric Acid; at the end of a week he was somewhat relieved: he then got a feverish complaint, the paroxysm of which came on at ten o'clock at night. (This is not a very unusual effect of the Nitric Acid: it is a disease of no great consequence; it is not the intermittent fever of this country, the fits of which come on in the day time, and before four in the afternoon. It exactly resembles the fever that is occasionally excited by diseases of the urethra, fistulæ in ano, &c.) Let him continue his Acid, and take the Peruvian bark.

HE has now taken the Acid for six weeks; his pains are quite gone, and he looks healthy. The skin of his



feet, although better than before, is still thickened and diseased, and has an appearance of casting off: the discharge and ulceration at the points of the toes and fingers are gone: the stiffness that affected the joints is also removed.

THIS man took the Acid for two months; he has been very well ever since, and is at present, as you have seen, quite free from disease. He never took a grain of mercury for this complaint, nor since. Mercury is a remedy to which the natives have the greatest aversion.

No. 4.

*Bombay, August 14, 1794.*

HORMAJU BYRANIJU PARSEE, æt. 25.

FOUR years ago he had a bubo on each side, and an ulcer in the urethra. He took no medicine for those, but put plaisters on the buboes, which went away without suppuration. He got well, and continued so for three years. About six months ago he had some suspicious connections, when he got a bubo, which was succeeded by pains in his bones, especially during the night. He is quite unable to walk, from a pain in his right leg, the ancle of which is considerably enlarged. Let him drink the Nitric Acid as usual.

October 28, 1794. After he had drank the Acid for a month, he began to get easier, the pain leaving his legs and arms. He can now walk very well, and only complains of a pain in one of his shoulders. I have just discovered that he has a phymosis, and a great discharge from the parts. This he concealed from me when I  
saw



saw him first. Let him continue the Acid. He has a red-coloured eruption over his legs, which does not produce itching. His gums, especially between the teeth, are enlarged and red, and look as if he had been taking mercury.

November 12. Has continued the Acid; his legs are cured of the eruption; he is quite free from pain, unless an uneasiness after walking long, in the angle of that leg of which he was formerly lame. He has got back the prepuce, and, by the assistance of blue vitriol and cleanliness, he has got rid of all the ulcers that were below it. I still think it necessary to continue his Acid, as the ulcers are so lately healed.

No. 5.

*October 1st, 1794.*

NAPERWANJU RUTTONJU PARSEE, æt. 27.

THREE years ago he had a large chancre on the prepuce, which continued nearly a month; about fifteen days after he perceived it, he began to take mercury; when his mouth became sore, the ulcer went away; he thought himself cured. The spitting from the mercury went off by degrees, but in ten days after it was gone he felt a pain in one half of his head, and in both his shins and knees: all those pains were greatly increased at night. He now took mercury a second time, for ten or twelve days, till his mouth got sore, which soreness continued for about eight days. While his mouth was affected,



affected, he felt no pain, and he considered himself for fifteen days afterwards as well. The pains in his shins and his knees came back again at the end of this period, and he was confined for six months in bed, so that he could not rise without help. He was then fumigated with cinnabar till his mouth got sore, and it continued so for six or seven days. His pains now went away, but the disease soon fell again on his knees and shins. He now took mercury by the mouth for about nine days, when he began to spit from it. His pains again went away, but they soon as before returned. In this way he spent a miserable life till I saw him, being generally confined to his bed. A short time before he applied to me, he took a course of mercury which made his mouth sore, with relief, as usual, of all his pains for eight days; they then came gradually back, and had continued severely for fifteen days when I saw him first. He has several considerable exostoses along the course of the tibia of both legs. Begins the Nitric Acid, with some Tinct. Thebaica mixed with it.

October 6. Has taken his medicine for five days; is easier of the pains, and can sleep at night, which he could not do before.

October 19th. Has continued his Acid: sleeps better; shins easier; complains of his teeth; has got an intermittent: let him take Cort. Perr. and continue his Acid.

October 26th. Has still a little of the fever. The fit comes on at four P. M.; continues the Bark and Acid: his pains are nearly gone, and he sleeps well.

November 7. Has taken the bark, and continued the Acid. No fever. All his pains are gone, unless a little in the middle of both shin bones, where he has nodes, and it is chiefly when he touches them. The pain was formerly all along the tibia, but is now confined to one spot. Let him continue his Acid.

November



November 11th. Pain in his shins diminished; he sleeps well; let him continue the Acid.

November 25th. All his pains gone, but a little in one shin. Drinks above an ounce of the Acid daily; sleeps and eats well; complains of his teeth.

I HAVE no farther memorandum about this man. I am sorry it is not in my power to shew him to you, for he was not a native of this Island, and left it some months after his recovery. This case made a strong impression on my mind, from its being well marked, and from its long continuance. The cure, after several months, appeared to be complete. He thought so himself, for he came hither for medical assistance, and returned to his own country when he thought himself secure against a relapse, which he had so often experienced.

H. SCOTT.

*Mr. Mac Gregor,*  
Surgeon of his Majesty's 88th Regiment.



# C A S E S

BY

DR. KEIR.

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*Bombay, December 10th, 1799.*

THOMAS BEDDOES, M. D.

SIR,

BY the ASIA, now under dispatch for Europe, I do myself the honour of transmitting you the accompanying Reports, respecting the use of Nitric Acid in some diseases; particularly those of a venereal nature. Many of the cases may appear uninterestingly tedious; but when I reflect on the difference of opinion that still prevails on this subject, and on your zeal and unremitting endeavours to ascertain the truth, I am induced to hope no apology will be considered as necessary for intruding on your time, by mentioning fully the appearances and symptoms that in general follow the use of the medicine.

About the month of September, 1793, Mr. Scott communicated to me the result of some trials with the Acid; which induced me to administer it in the battalion hospital of artillery, in several cases of chancre and gonorrhæa; but as it was applied to ulcers, diluted in the form of a wash, and as an unnecessary degree of caution and timidity was observed in the dose, I do not on reflection



fection recollect that the trials were at all satisfactory; and as my memorandums have been mislaid, I cannot state particularly the result. About this time I was sent from the Presidency, and for several years was employed in the marine service, and in situations where the Acid was not to be procured.

The following Cases I intended to have forwarded to you the last season; but as it might have been objected that the cures were probably not permanent, I have withheld them until now. I have occasion to see the greater number of the men monthly; and as they continue to do their duty, and have not relapsed, I conceive I may fairly conclude the cures will be permanent. In some cases I have not succeeded so well as in others; and the salivary glands have not been uniformly affected; how to account for this I do not know, and hazarding any hypothesis on the subject is not likely to prove satisfactory—as an honest communication of the cases of failure and success can alone be interesting and useful. In this climate, I have observed the disease very generally more active, and its progress more rapid towards the secondary stages, than in Europe; and the use of mercury, in any form, uncommonly disagreeable and unpleasant to the natives; the diluted Acid, on the contrary, from the frequent desire for diluents, becomes a convenient and an agreeable medicine, and unless in a few cases, where from some peculiarity of constitution the Acid excited nausea, I have of late, in my hospital, found the natives give it the preference; to these reasons we may probably attribute the greater degree of success that appears to result from the use of the Acid in India, than in cold climates.

I have the honour to remain,

Your very obedient servant,

GEORGE KEIR, M. D.

Honourable Company's service, Bombay establishment.



JAMES WITTEM, a soldier of a slender and debilitated constitution, was admitted a patient in the general hospital in August last, covered with venereal blotches, nodes, with nocturnal pains; and previous to this period he had several courses of mercury, with the effect of relieving his complaint for the time.

January 22d, 1798. He reports himself weaker and worse than ever, and is anxious to try any medicine rather than mercury; his extremities are now covered with blotches, nodes on both skin and bones, and swelling of both elbow joints.

He is desired to drink, in the course of the day, two drams of Acid to a quart of water, and to have an opiate at bed-time.

January 28th. Has taken his Acid mixture regularly, which agrees well with him. No change—Continues with half an ounce of Acid daily.

February 1st. Continues as formerly.

..... 28th. A foul and ragged ulcer, which covered the greater part of the left leg, looks healing. The discharge, from being thin and acrid, is now bland pus; he has regularly taken his mixture, which produces no unpleasant symptoms. Continues with five drams daily.

March 2d. Is now free from pain in his elbow joints; appetite good; says his gums are sore, with a bad taste in his mouth; his Acid purges him: two grains of opium daily.

March 5th. Complains of general debility, but says he is in other respects nearly well. His sores are washed frequently with diluted Acid; pains in the tibiae much relieved.

March 11th. From irregularity he has been obliged to omit the Acid mixture for two days. Continue with six drams daily.

March 16th. Reports himself well, and solicits his discharge;



discharge; which is refused. His appetite is uncommonly keen; he sleeps well and is free from pain.

March 23d. Continues well. Nodes much reduced in size, sores nearly healed; the eruption has disappeared. Continues his Acid.

March 26th. Reports himself in every respect well, and refuses to take any more of his medicines, which he considers as unnecessary.

March 30th. Is discharged to join his corps in the Malabar provinces.

In this case an uncommon degree of irritability prevailed, and the general health of the patient was much impaired by repeated courses of mercury; he complained of his gums being spongy, and of a bad taste in his mouth, but the salivary glands were never affected; the Acid agreed well with him, improved his appetite, and produced copious diuresis.

J. HAMMOND, February 13th, 1798.

ABOUT six months ago was in the hospital for venereal pains, which were removed by corrosive sublimate; has now a node on the tibiae of the right leg, with nocturnal pains, and a swelling of the right elbow and knee joints. On his nose, which is much inflamed, there is a foul scabby ulcer. Solicits the Acid drink. Three drams of Acid daily, and an opiate at bed time.

February 21st. Takes the Acid regularly; no change. Complains of a burning and pricking pain about the region of his stomach. Continues.

March 1st. Reports himself considerably relieved; sleeps tolerably well; appetite good; gums not affected, nor is there any increase of saliva. Half an ounce of Acid daily.

March



March 5th. Enlargement of the tibiae and knee joint entirely gone. Continues with six drams of Acid daily.

March 15th. Ulcer on the nose as before; he is desired to keep it covered with a compress moisture with his mixture. Continues with seven drams.

March 25th. Sore healed; but the inflammation and redness continues. Continue as formerly.

March 30th. Receives his discharge, as he is anxious to join his corps.

In this case all his symptoms were removed by the Acid, and he left the hospital in perfect health, convinced he had obtained a permanent cure; as he was without any unpleasant feeling, which he always had after using mercury.

#### JOHN GORDON, a Marine.

February 1st. IS unable to move without assistance, owing to pains in his limbs; the knee and ankle joints are considerably swelled. He has been in this state for several months, and was relieved by a course of mercury he had at Prince of Wales's Island; three drams of Acid, diluted daily, and an opiate at bed time.

February 15th. Can now move about without his crutches. Continue with half an ounce daily.

February 28th. Has taken his medicine regularly, and is much relieved; encrease it to six drams in two quarts of water daily.

March 3d. Swelling of the joints much the same; he is, however, greatly relieved; mouth sore, and the discharge of saliva very considerable. Continue as formerly.

March 10th. Reports himself tolerably well, and  
stouter



stouter than for many months past; swelling of his joints nearly gone.

March 15th. Is discharged at his own request, in good health.

I was in doubt whether this case was strictly venereal, until I heard the full history of it from the patient; previous to his complaining he had ulcers on the glands and præpuce, which were healed by precipitate, but he used no mercury internally.

#### CHIMNAIG SUTTNAIG, a Sepoy.

October 9th, 1798. On the glands and præpuce are several venereal ulcers of some standing, with much inflammation; he has not had any venereal complaint for some years, and has taken no medicine. He is directed to take two drachms of Acid daily, and to apply dry lint, wetted with water, to the ulcers.

October 21st. No material alteration; increase the quantity of Acid to half an ounce daily.

October 25th. Sores healing; inflammation gone; as is also a degree of stiffness and swelling that affects his left inguinal glands. Continue with six drams daily.

October 28th. The ulcers perfectly healed; he requests his discharge, which is refused. Continue as formerly.

November 5th. Discharged to duty.

July 10th, 1799. Was re-admitted with Guinea worms; he has done his duty since November last, and never has had the smallest appearance of relapse; the gums were never in any degree affected, and the discharge of saliva not at all increased; symptoms of diarrhœa, several times during the cure, obliged me to discontinue the Acid for a short time: this is so generally the case, where



the Acid is given in large quantity, that the patients are supplied with opium pills to take occasionally, as the pain becomes urgent. This case may be considered as one that puts the efficacy of the remedy beyond doubt.

October 20th, 1799. Became a patient for a wound in the chest; in other respects stout and healthy.

RAMUINACK GOMNACK, a Sepoy.

October 18th, 1798. Has a discharge of puriform matter from the urethra, in consequence of exposure to venereal infection; and on the glands several deep-seated chancres. Refuses the Acid drink, but has no objection to bathe in it. He is directed to go into a strong Nitric bath twice a day, and to remain an hour each time. Dry lint to the ulcers.

October 21st. Goes into his bath regularly; his skin is much excoriated, owing to the heat of the weather, which the strength of his bath has much increased.

October 24th. The ulcers have spread considerably, and discharge a thin acrid matter; he is very urgent for some medicine internally; a few bread pills daily, and half a pint of Acid, to be added to his bath each time.

November 5th. Mouth tender; sores have put on a healing appearance, and are free from pain. Continue his bath.

November 8th. Mouth very sore, and the discharge of saliva great; his skin in many parts ulcerated, owing to the strength of his bath. Omit the bath.

November 12th. Repeat the bath as formerly.

. . . . . 15th. Mouth very sore, and the gums ulcerated; the salivary glands are enlarged, and the discharge about four pints daily; there is no foetor from his gums, as if he had taken mercury; sores nearly healed; omit the bath.

November



November 20th. Chancres healed.

. . . . . 28th. Is discharged to duty.

June, 1799. Returned with a bowel complaint, which confined him to the hospital for some weeks. Since October he has enjoyed uninterruptedly good health, and has been free from pains or any symptoms of syphilis. The mouth was in this case as much affected as I have ever seen it from mercury. The pills he took as a placebo were crumbs of bread made by myself, which was the only substance he ever took internally. This case proves satisfactorily, that the Acid is capable of being absorbed; of producing copious salivation; and of effecting a permanent cure in a case certainly syphilitic.

DADOO CHAUDU, a Sepoy. *November 16th, 1798.*

THIS patient has been much reduced by repeated courses of mercury, for the removal of nodes, swellings of the ankle and elbow joints, under which he still labours; he derived only temporary relief from the mercury, and is now desirous of trying the bath. He is directed to go into a strong Nitric bath twice a day for one hour each time.

November 24th. No change. Continues.

December 5th. His bath to be made stronger.

. . . 10th. The bath produces excoriation and much pain; but he willingly perseveres, as he has derived much relief from it; he requests to have it internally; continue the bath, and two drachms internally daily.

January 4th. Continue the bath, and increase the Acid taken internally to half an ounce.

January 10th. Continue the bath, and an ounce of Acid internally.



January 14th. Is free from pain, and reports himself in every respect well. Omit the mixture, and continue the bath.

January 24th. Is discharged at his own request. He has now the free use of his different joints, and the nodes on the tibiæ are nearly reduced. On the tibia of one leg, where was a large node, there appears to have been an absorption of osseous matter, which has left a long and deep channel in the bone; the salivary glands were not in the least affected.

August 1799. No relapse.

SHAIK ISMAIL, a Sepoy, *November 20th, 1798.*

HAS now an intermittent fever, under which he laboured many months at Bufforah. The fits are particularly severe at the full and change of the moon; the spleen is very much enlarged, and occupies the whole of the left hypogastric region. On using exercise, he is subject to violent dyspnœa. He is directed to go into a strong bath three times a day, and to have soluble tartar to keep his bowels open.

November 25th. The bath is as strong as he can bear; no change.

December 1st. Not relieved; and is much dissatisfied with the bath, and has no confidence in it; omit the bath, and take two drachms of Acid internally, in three pounds of water.

December 4th. Continue with three drachms daily.

. . . 6th. Increase the Acid to half an ounce.

. . . 8th. Is rather worse; omit his Acid mixture, soluble tartar to keep his bowels open, and opiates occasionally to allay pain.

December 30th. Dead; from a bowel complaint, which my usual and favourite remedy (calomel and opium) rather



ther increased. As this is a solitary case of the use of the Acid in splenitis, little can be inferred from it. I do not know any medicine that has ever appeared of much use. Mercury, tonics, and laxatives, may sometimes afford temporary relief. *Toddy*, the juice of the cocoa tree, allowed to remain at the tree until it becomes slightly fermented, proves a pleasant laxative, and in many cases is useful. In taking notice of this beverage, it may not be foreign to the subject to mention a case of dropsy, when a cure was effected under the free use of it, when every other remedy had failed.

VENNABLES, a Seaman belonging to the Honourable Company's Cruizer, *Panther*,

BECAME dropical, after having suffered much from a fever he contracted at Batavia. I tapped him five times, on account of the urgency of the symptoms, and used every medicine generally employed, without success. On the arrival of the ship at the Pelew Islands, it became necessary to perform the operation the sixth time. After this he lived in the woods amongst the natives, who treated him with their accustomed friendship. As I considered the case as hopeless, I agreed to his drinking freely of fermented *Toddy*. About a week after he informed me he voided urine in very large quantities, and was purged frequently without being weakened by it, and that he had hopes of a cure, as his belly had not increased in size. He continued the practice for six weeks, when he returned on board the ship convalescent, and shortly did his duty. He was frequently much intoxicated by the *Toddy*. Four years afterwards he called on me in good health. He never had any return of his complaint.



BINNACK CORMACK, a Sepoy. *November 22, 1788.*

LABOURS under syphilis, and has had several courses of mercury without effect. His symptoms now are, nodes on the shin-bones, enlargements of the metacarpal bones and joints, swelling of the olecranon, with loss of motion of the elbow joint. He is excessively irritable, and much reduced.

THE Acid bath, as strong as he can bear it, twice a day.

December 1st. Goes into the bath regularly; no change. Continue.

December 11th. Continues in nearly the same state. Continue.

December 21st. No relief. Refuses to go into his bath.

January 1st. He takes the Acid internally, and has all his drink acidulated with it.

January 7th. Uses his Acid drink, from which he derives no benefit. He is now, he thinks, in the same situation he was when admitted. Drinks the Acid.

July 10th, 1799. Since January this patient has had several courses of mercury, and the Acid at intervals, and continues in the same state. The Acid seems to occasion some change, which renders the habit more than usually susceptible of mercury. Still, however, it produces no relief.

December 1st, 1799. Continues the same. Every remedy supposed to possess anti-syphilitic powers has been given without effect. For some months past he has not taken any thing, and the disease seems stationary.

HAS the syphilitic virus in this case been eradicated; and are the present train of symptoms a consequence of the repeated courses of mercury?

I HAVE



I HAVE seen many cases that support this opinion, when the sufferers continued for years to exist miserably, without the disease gaining ground. In two or three cases a cure has been effected by a voyage to Europe, without the use of mercury.

MALARNOCK SYNOCK, a Sepoy. *November 23, 1798.*

REPORTS that some days back he observed a number of pimples on the præpuce, which have now become large foul chancres. This he declares is the first venereal affection that ever he had. He has never used mercury. He is directed to go into a strong Nitric bath twice a day, and to apply dry lint to the sores.

November 27th. No change. Continue.

December 3d. Has not bathed for two days, owing to an affection of his bowels, which is now removed. Continue.

December 7th. Sores healing. The bath (he thinks owing to the cold) occasions the uneasiness of his bowels. Omit the bath. Half an ounce of Acid to be taken daily. Two of the sores healed.

December 24th. Has taken his Acid, which has been increased to an ounce daily.

December 29th. Reports himself well.

January 3d. Is discharged to duty.

THIS was a strong and distinctly marked case of pox. There never had been a grain of mercury taken, and the symptoms were removed as soon by the Acid as mercury generally does. Lint was the only application to the sores. The gums were spongy, and a slight degree of salivation for some days before he left off the use of the Acid.

November 1799. Was admitted wounded. Has never had an ache, or been unwell since January last.



GUNACK MOWA, a Sepoy. *November 20th.*

LABOURS under gonorrhœa, attended with phymosis, ardor urinæ, and frequent discharge of blood during erection. A strong Nitric bath three times a day.

November 29th. Complains of the bath, and wishes to have the Acid internally.

HALF an ounce in two quarts of water daily.

December 5th. Is very troublesome, and takes his medicine with reluctance. Continue it.

December 10th. Discharge nearly gone. Ardor urinæ, and the other symptoms removed. Refuses to take any medicine, and returns to his duty.

January 30th. Was a patient for a week past with a fever and dysentery, which carried him off. He never complained of his former symptoms.

JAUMETU IPMATU, a Sepoy. *November 15, 1798.*

HAS laboured under gonorrhœa virulenta for some days past. The symptoms are now very violent. Half an ounce of Acid internally daily, and a strong bath twice a day.

December 5th. An abatement of all the symptoms.

. . . 19th. Nearly well. Continue.

. . . 28th. Discharged to duty.

July 1799. No relapse.

DHONDGU MOOREDÜ, a Sepoy. *October 28th.*

SOME time back had chancres, which he neglected; his symptoms now are, nodes, nocturnal pains, for which mercury has been given without effect.

A STRONG Nitric bath.

November



November 12th. Continue. Slight salivation.  
    . . . 14th. Continue. With a strong bath.  
    . . . 17th. His skin is sore from the strength of  
the bath, and he refuses to go into it. Is persuaded to  
continue the bath.

November 21st. Is much relieved. Continue.  
    . . . 27th. Gums sore, and a considerable dis-  
charge of saliva. Continue.

December 25. Discharged for duty.—In this case there  
was throughout a considerable spitting, and the salivary  
glands were much enlarged.

July 1799. Returns to the hospital with Guinea  
worms. Has continued well since he was discharged, and  
is now stout and healthy. There is still on one of the  
shin-bones an enlargement, which, however, gives him no  
pain or uneasiness.

JOHN MAHOMED, a Sepoy. *October 29, 1799.*

ON the glands and præpuce are several chancres; he  
has never before, he declares, contracted any similar com-  
plaint, and has never used mercury in any form.

HALF an ounce of Acid (diluted) to be taken daily.

DRY lint to the sores.

November 14. Mouth slightly affected.

Continue. With six drachms daily.

November 21st. Sores healed. Omit his mixture.

December 4. Returns to duty.

July 1799. Was admitted for a burn. Has never been  
unwell since he was discharged in December last, and is  
now stout and healthy.—In this case the mouth was af-  
fected, but the discharge of saliva never much increased.

SHEICK



SHEICK MAHOMED, a Sepoy. *November 13th.*

HAS several chancres on the glands and præpuce of some days standing; has never used mercury.

HALF an ounce of Acid daily.

November 26. Sores healing; mouth and gums tender. Deserted.

IN this case, from the favourable appearance of the sores, I have no doubt a permanent cure would have been obtained in a few days.

GOURNAIG GOONAIG, a Sepoy. *October 20th, 1799.*

WAS admitted for a gonorrhœa, attended with symptoms of inflammation, chordee, &c.

HALF an ounce of Acid (diluted) daily.

October 24. Discharge nearly gone. Continue.

November 14. Discharged to duty.

July 1799. Continues well, and has had no relapse.

MANAICK PEUSOO, a Sepoy. *December 11th, 1798.*

Is affected with nodes of the shin-bones, nocturnal pains, and swelling of the knee joints. Mercury has been given without effect. A strong Acid bath twice a day.

December 22d. Much relieved; gums sore.

January 15th. Returns to duty at his own request. The nodes in this case were not perfectly reduced, but occasioned no uneasiness; the mouth was slightly affected. This patient was sent on a detachment to Buf-forah, and has not returned, which he would have done had he relapsed.

IN two paralytic cases I have given the Acid internally, and used it in the form of a bath with the best effects.

One



One of the patients is now well, having recovered the use of his right side, and the other is daily improving; in both cases the affection was occasioned by sleeping in a moist situation during the night, and exposed to a strong land wind without any covering.

THE foregoing Cases ascertain, beyond a doubt, the merits of Nitric Acid as an antidote against the venereal poison, in its primary, and very generally in its secondary stages.

I HAVE hazarded an opinion, that the cases of failure, when mercury has been repeatedly given, may be owing to a new disease being produced by the repeated courses of mercury.

IN addition to the cases, I have used the Acid in five cases of recent infection (the symptom chancres) internally, and have obtained cures apparently permanent. In two cases the salivary glands were affected. Three cases of chancres I have treated with equal success by bathing. In one case a slight salivation was produced; in two of five cases of secondary syphilis, I have succeeded—the mouth affected. The three cases of failure, if I may call them so, were very unfavourable. The patients were much emaciated, and I never could prevail on them to use their medicines regularly, or for a sufficient length of time.

ON the whole, my experience warrants my considering the Acid as capable of effecting a permanent cure in recent cases of syphilis. When it fails in old affections, I am of opinion the want of success may be attributed to the incurable nature of the disease by any known remedy.

GEORGE KEIR, M. D.



L E T T E R,

WITH

C A S E S

FROM

Mr. S T E U A R T.

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DEAR SIR,

I HAVE now the pleasure to transmit seventeen Cases of venereal affections treated with Nitric Acid. I expected to have been able to send a great many more, which to me and several other gentlemen are equally satisfactory, but have been prevented by several causes:

1st. HAVING observed the very great difference of opinion which has arisen in Europe on this subject, I was unwilling that any doubt should remain of the medicine employed, to which the cure could be fairly attributed; I have therefore suppressed all those cases, two excepted, in which mercury was employed; for, however I might be satisfied in my own mind as to the effects of the two remedies, I think, in a matter of so much importance, that as little as possible should be left to conjecture.

2dly. I HAVE not thought it necessary to state these cases at length, in which I have altogether failed to produce a cure, because, while they argue nothing in favour of Nitric Acid, they in general equally condemn all other remedies; besides, that a sufficient number of such cases will



will occur to every practitioner, to convince him, that something still remains to be discovered; and that although we have got a valuable auxiliary in Nitric Acid, there is still sufficient scope for genius; such cases, however, are but few in comparison, and it is to be hoped that they will in future occur still feldomer than heretofore. It remains for me only to state, in a few words, the general result of my experience. Wherever I have used the Nitric Acid, it has almost uniformly improved the general health, even in the most obstinate cases of confirmed lues, where the constitution has been almost destroyed by disease, and repeated courses of mercury, and where it has failed to produce a cure. I have not found that the Acid uniformly inflames the gums, and produces a flow of saliva; but I have often found it do both, whether applied to the skin, or taken into the stomach. The effects of bathing have been in every respect similar to those produced from drinking the Acid, and in the two recent cases, when the feet and legs only were bathed, the cure proceeded as rapidly as it generally does, either under the use of mercury, or the internal use of the Acid, and certainly more agreeably.

To conclude: In all the cases of recent infection, in which I have trusted entirely to the use of Nitric Acid, whether externally or internally applied, I have not as yet met with one instance of relapse; and, in secondary cases, where I have given it what I consider a fair trial, and failed ultimately, I do not now recollect one in which a permanent cure has been established by any other means.

I am,

Dear Sir,

Your obedient Servant,

R. STEUART.

*Bombay, December 17th, 1799.*

*H. Scott, Esq.*



CASES to ascertain the Effect of NITRIC ACID,  
which occurred in the Regimental Hospital of Artillery,  
Bombay.

CASE I.

*Secondary Symptoms.*

JAMES HUNTER, aged about thirty-three years, was admitted into the hospital October 13, 1798, with exostosis of the metacarpal bones of his left hand, and of the bones of the cranium, attended with violent nocturnal pains.

IN January or February of the same year, he had been in the hospital for the same complaint, but in a much slighter degree, (the exostoses being confined to the hand). At that period he was relieved by drinking a diluted Nitric Acid; but being employed where his services could not easily be spared, he could not be prevailed on to remain in the hospital a sufficient length of time. From the history he gave of his case, I had no doubt of its being venereal: he was now an object of pity, being tortured with excruciating pains, from about sun-set till a late hour in the morning, which were not in the least relieved by large opiates. He was directed to drink half an ounce of Acid, sufficiently diluted, in the day.

ON the 28th his pains were much diminished, and the exostosis of the cranium entirely gone; that on the hand much smaller. At this time the Acid produced sickness and nausea, and was therefore omitted for a few days.

ON the 1st of November he began again the Acid, which he continued till the 9th. At this time he complained



plained of pains shifting from place to place, but confined chiefly to the large joints. Some blisters were applied at his own desire, which appeared to give relief. He continued the use of the Acid until December 3d, when he was discharged well. He has continued in good health ever since; the swelling in the hand still remains, but without pain.

*December 8, 1799.*

## CASE II.

### *Secondary Symptoms.*

JOHN HAMILTON was admitted into the hospital, November 20th: He contracted a gonorrhœa, with chancres, about eight months previous to this, and had used some mercury, but discontinued it as soon as the latter were healed. He now complained of violent nocturnal pains; had swelling in the frontal bone, shins, and arms; his general appearance left no room to doubt of the nature of his disorder. Large opiates gave no relief; he was ordered to drink half an ounce of Nitric Acid diluted, in the twenty-four hours, which he continued till December 12th. During this period he had experienced but little relief, although the swelling in the bones were somewhat diminished. The Acid drink was now omitted, and he was ordered to bathe his whole body in a diluted Acid, morning and evening, for half an hour each time. In a few days his pains began to subside, and he gradually improved in health till January 3d, 1799, when he was discharged well. He has remained in good health ever since. The only medicine besides the Acid that was given, during his stay in the hospital, was an occasional opiate.

*December 8, 1799.*



## C A S E III.

*Secondary Symptoms, cured by bathing.*

THOMAS DAVIS was admitted into the hospital, December 18th. The history of his case is nearly the same with that of Hamilton, excepting that he denies having had any primary symptoms but gonorrhœa, about eight months before, and for which he took only a few doses of salts. He had now exostoses on both shins, with excruciating nocturnal pains; as he had no open sore, he was directed to bathe in the acidulated water which Hamilton used. His pains were gradually relieved almost from the day he began the bath; and he was discharged well on January 3d, 1799.

THIS man continued in good health till about the end of February, when he died suddenly on a march.

HIS death was attributed to apoplexy, by the surgeon who saw him. He took no medicine by the mouth during his stay in the hospital.

## C A S E IV.

*Secondary Symptoms, cured by bathing.*

ROBERT PATERSON, admitted into the hospital, November 29th, 1798, acknowledges to have had a gonorrhœa some months ago, for which he used no medicines; has a node on the shin-bone, with severe pains in the night; for four days after his admission had a large opiate at night, without experiencing any relief. On December 3d, he began to bathe in the Nitric Acid, as in the two foregoing cases; on the fifth day of his bathing,



ing, the exostosis had almost disappeared, and the pains were much alleviated; from the 12th he had a very considerably increased flow of saliva, with stiffness in the throat, and redness of the gums. He continued the bath, with the interval of a few days, during the month, and was discharged well on January 3d, 1799. Excepting a cathartic, he used no medicines internally during his stay in the hospital.

He has remained well ever since, excepting about fifteen days confinement in the hospital with febrile symptoms, and disorder in his bowels.

*December 8th, 1799.*

#### C A S E V.

##### *Secondary Symptoms cured by Acid Drink.*

JOHN WAGONER, admitted into the hospital November 3d, 1798, contracted the venereal disease in 1797, had several chancres with bubo; had taken mercury and considered himself cured; he had now an open ulcer on the shin, of a month's continuance, with exostosis and violent nocturnal pains. On his admission into the hospital, he had four grains of calomel daily for five days, but without affecting his mouth considerably; he was now ordered to drink half an ounce of diluted acid in the day, which he continued until December 12th, when he was discharged well, and has continued so ever since. The sore was dressed with cerate, mixed with red precipitate.

*December 8th, 1799.*

I AM aware that this case will not be allowed to prove any thing; although I have no doubt but the cure was effected by Acid, not by mercury.



## C A S E VI.

*Recent Infection cured by bathing.*

JAMES DELAHUNT, aged about 35, was admitted into the hospital October 20th, 1798. He had a chancre between the glans and præpuce, of about half an inch in diameter; it was evidently a common venereal chancre, and by the 22d had increased to the size of a shilling; this day he was put into a tepid bath, composed of about thirty gallons of water, and three pints of Nitric Acid, and remained in it half an hour, morning and evening; this bath he continued until the 10th of November, when the ulcer appeared clean and healing, with little or no discharge. I was led to suppose that the application of the Acid to the surface of the sore, prevented its drying up. The bath was therefore omitted for a few days, and the sore washed frequently with a solution of acetated lead; it was perfectly healed on the 15th. He now recommenced the bathing, which he continued till the 25th, when he was discharged; he has remained free from every syphilitic symptom ever since.


He had an increased flow of saliva for some days. He used no medicines internally during his stay in the hospital.

A PINT of fresh Acid was added to the bath every third or fourth day during the cure.

*December 8th, 1799.*

## C A S E VII.

*Primary Symptoms cured by Acid Drink.*

JAMES TAPTON was received into the hospital December 12th, 1798, with chancres on the præpuce,  
 swelling



swelling in the groin; his disorder is of ten days standing. He was directed to drink half an ounce of diluted Acid daily; on the 24th the ulcer had a healing appearance, and he had an increased flow of saliva, with pain in the throat, but little inflammation of the gums; 31st, the ulcer was quite healed, and he continued the Acid until January 10th. During this period the bubo remained hard, and nearly the size of an egg, but without much inflammation or pain; he now desired that he might get some mercury on that account; he had accordingly four grains of calomel daily for six days; his mouth was slightly affected, without altering the appearance of the bubo; he was discharged, January 12th, and has remained well ever since, excepting a slight gonorrhœa, which he contracted in April last, for which he used twenty-eight grains of calomel in all; this I administered without reflecting on his former case. The bubo has gradually disappeared.

*December 8th, 1799. 1*

#### CASE VIII.

##### *Recent Infection cured by Acid Drink.*

WILLIAM BERRY was admitted, December 4, 1799; has a foul spreading chancre on the glans, of ten days standing. 5th, He was directed to drink half an ounce of Acid diluted and sweetened, daily. 18th, The ulcer clean and healing. 1st. January, Ulcer healed. He continued the Acid till January 17th. Discharged cured; has been well ever since.

*December 8th, 1799.*



## CASE IX.

*Recent Infection cured by drinking the Acid.*

HENRY SOUTHWARK was admitted into the hospital, January 21<sup>st</sup>, 1799, with a small chancre and swelling in the groin, of a week's standing. He drank half an ounce of Acid daily till the 25<sup>th</sup>, when it was increased to an ounce; on the 28<sup>th</sup> the ulcer was clean and nearly well; and on the 31<sup>st</sup> quite healed. He continued the Acid three days longer, and being unwilling to remain longer in the hospital was discharged.

I KNOW not whether it be necessary to remark here, for the satisfaction of those that are unwilling to allow any antisyphilitic power to the Nitric Acid, that this man was again admitted into the hospital under acute hepatitis, for which he took a considerable quantity of mercury.

HE has remained free from any syphilitic symptoms for near a year.

*December 8<sup>th</sup>, 1799,*

## CASE X.

*Recent Infection cured by bathing in diluted Acid.*

THOMAS EMPRINGHAM, received into the hospital September 17<sup>th</sup>, 1799; has two small chancres on the glans, and one on the præpuce; received the infection about a week since. Directed to bathe his feet and legs in a diluted Acid, as strong as the skin can bear it, for half an hour, three times in the day. 22<sup>d</sup>. The ulcers seem to increase in size, and two more appear on the præpuce. Bath continued four times a day, with a quantity of fresh Acid added daily. October 3<sup>d</sup>, Sores clean and appear healing. They were dressed with common cerate. October 12<sup>th</sup>, The sores completely healed. 16<sup>th</sup>, Discharged.

EXCEPTING



EXCEPTING a few doses of salts, he used no other medicine. For some days he had an increased flow of saliva, without pain in the throat or gums.

HE has been free from complaint ever since.

*December 8th, 1799.*

#### CASE XI.

*Recent Infection cured by Acid Drink.*

JOHN PULLEN was admitted into the hospital July 1st, 1799; has two small chancres on the præpuce, with gonorrhœa, phymosis, and considerable swelling. Ordered half an ounce of Acid daily, which on 6th was increased to an ounce. 7th, Swelling and inflammation less. 8th, Swelling gone; phymosis continues. 10th, Ulcers healing; phymosis gone. 12th, Ulcers healed. 13th, Discharged cured. Had no other medicine. Is now in perfect health.

*December 10th, 1799.*

#### CASE XII.

*Recent Infection cured by Acid Drink.*

JOHN SCOTT, received July 20th, 1799; has a large and deep chancre on the external præpuce, an inch in length, with swelling in the groin; the disease of fifteen days standing. He is ordered half an ounce of Nitric Acid daily, and the sore to be dressed with common cerate. 26th, Sore cleaner. August 1st, Sore clean and healing. 15th, Sore quite healed. 29th, Discharged cured. Drank half an ounce of Acid daily the whole time. No other medicine, a few cathartics excepted. Is now in good health.

*December 10th, 1799.*



## C A S E   X I I I .

*Recent and secondary Symptoms cured by Acid Drink.*

JOHN GOODWIN, received into the hospital August 2d, 1799; complains of violent nocturnal pains in his legs and arms; confined to the bones. No appearance of nodes. About nine months since had chancres, which he healed by application of ointment and red precipitate; but took no medicine internally; has now a gonorrhœa, with much scalding, of twelve days standing. Ordered half an ounce of Acid in the day. 7th, Scalding less; gonorrhœa continues the same. 17th, Scalding gone; discharge less. 18th, Pains entirely gone. 24th, Discharged cured. Took no other medicine.

## C A S E   X I V .

*Recent Infection cured by Acid Drink.*

JOHN ECLES, received into the hospital October 13th, 1799; has a spreading chancre on the glans, of a few days standing. Ordered to drink half an ounce Acid in the day. 18th, Acid increased to an ounce. 19th, Ulcer healing. 25th, Sore healed; continued the Acid 'till November 1st. Discharged cured. Used no other medicine; is now in good health.

*December 10th.*

## C A S E   X V .

*Recent Infection cured by bathing the Feet and Legs.*

JOHN WHITAKER, received into the hospital October 30th, 1799; has a spreading chancre on the glans,  
of



of a month's standing; three weeks since took some mercury at Surat without affecting his mouth; has taken nothing for twelve days. Ordered to bathe his feet and legs four times in the day in diluted Acid, as strong as the skin could bear it. November 7th, Has pain in the throat, with increased flow of saliva; ulcer clean. 17th, Ulcer healing: salivation continues. 20th, Ulcer healed; continued the bath a few days longer, and discharged cured. Took no medicine internally. He put only lint to the fore.

*December 12th.*

#### CASE XVI.

*Recent Infection cured by Acid Drink.*

WILLIAM FORD, admitted October 24th; has a small chancre, of a month's continuance, with swelling in the groin. Ordered half an ounce Acid daily. 31st, Ulcer healing; swelling in the groin less. Continued the Acid till November 7th. Discharged cured. Is now well.

*December 12th, 1799.*

#### CASE XVII.

*Recent Infection cured by Acid Drink.*

JOHN BUCKLE, admitted October 24th; has a chancre on the glans, with bubo, containing matter, three weeks standing. Ordered half an ounce Acid daily. 31st, Ulcer clean; bubo open, with large discharge. November 12th, Bubo healing; continued the medicine till 23d. 30th, Discharged cured; took no medicines besides. Is now well.

*December 12th.*

R. STEUART,

Surgeon Hon. Company's Battalion of Artillery.



## R E P O R T

FROM

MR. BOAG.

— — —

*The following CASES of recent Venereal Infection, where the NITRIC ACID BATH only was made use of, were selected from a number of others, on account of their being the worst Cases, and likely to afford the most distinct proofs of the effects of this remedy.*

THE tub which was used for the bath was small, exposing, when the patient sat down in it, not more than half the surface of the body to the action of the acidulated water. The bath also, in most of those cases, was but weakly impregnated with the Acid, because sufficient experience at the time those trials were made, had not been obtained of the strength with which this remedy might safely and most efficaciously be used. As the remedy was a new one, it was used with timidity. I think I can now assert with great certainty, that if the surface of the body had been more fully exposed to the action of the Acid, and the bath been more strongly impregnated with it, the remedy would have acted more quickly, and the success in all respects been more remarkable.

## CASE I.

BALOO CHUAN, Sepoy, was admitted into the hospital on the 9th of November, 1798. A large deep and  
foul



foul sore on his groin, the consequence of a bubo, which has been increasing for these fourteen days past: says he has taken no medicines, and is in other respects in good health.

He was directed to use the bath for half an hour every day, and to have the sore dressed with an ointment of wax and oil.

November 24th. He has been in the bath regularly every day, as directed. His mouth is not affected; his sore has been mending, though slowly, and it looks clean. Omit the bath.

December 5th. The sore has been nearly stationary since last report. Let him again go into the bath, but a little stronger than before.

December 10th. The sore seems now to be mending quickly. Continued the bath.

December 22d. The sore not yet quite healed; says his mouth is not affected; but, on looking at his gums, they are of a dark colour, and bleed upon slight pressure.

December 30. Discharged well.

In this case the bath was omitted after fifteen days, because it was conjectured that the Acid, by irritating the sore, might prevent it from healing. This, however, did not appear to be the case; it was therefore afterwards continued till within a few days before he was discharged from the hospital.

#### C A S E II.

GOPAL RAW, Sepoy, admitted into the regimental hospital of the first regiment, 8th of October, 1798, with several large chancres on the glans of his penis, with a bubo on one groin, which is large and hard. He has been ill, he says, for ten days, and has taken no medicines.

LET him use the bath daily. The sores to be dressed with common ointment.

October



October 18th. His fores are as large as at first, but they look clean; the bubo is soft and diminished; his mouth, he says, is not affected. Omit the bath.

October 22d. The bubo broke two days ago, discharged a little matter, and is now healed without any applications. The chancres are healing.

November 24th. His fores are all healed some days ago; he continues well—Let him be discharged.

December 7th. Returned to the hospital this day, with a bubo on the opposite groin, which is large and hard, and gives him much pain in walking. He says he has had no fresh infection, and has no other complaint. Repeat the bath, but stronger than formerly.

December 22d. He has been in the bath every day since last report. His bubo has gradually disappeared, and he has been for some days quite well. He says that his tongue gives him pain when he eats; his gums are not painful, but they are swelled, discoloured, and bleed on the least pressure.—Let him be discharged.

### C A S E III.

BAGWAN SING, Sepoy; admitted into the hospital the 30th of November, with large and deep chancres on the glans penis, and a large bubo on one groin, for which he has taken no medicines, and been ill for fifteen days.

LET him use the Acid Bath daily, and have his fores dressed with common ointment.

December 7. He has been in the bath seven times, his bubo has been diminishing, and the chancres mending; says that his mouth is sore, and slightly salivated.

DISCONTINUED the bath.

December 10th. The soreness in his mouth and spitting have increased remarkably since last report; his  
gums



gums are swelled and ulcerated, but without fœtor; the sores continued mending.

January 30th. His mouth has continued sore ever since last report, but it is now better. All his venereal symptoms have disappeared some time ago.—Let him be discharged.

#### C A S E IV.

BAPPOOJEE ISRAIL, admitted into the regimental hospital on the 4th of November with a gonorrhœa, which was followed with a bubo, that made its appearance about eight days ago. It is now large and hard.

LET him use the bath daily.

November 10th. Says the gonorrhœa is stopped—the bubo much the same. Continue the bath.

December 10th. He has been in the bath fifteen times; his mouth is not affected; his bubo stationary. Omit the bath.

December 18th. Since last report the swelling in his groin has suppurated, and broke some days ago. The sore has a foul appearance, and seems to increase. Repeat the bath of a greater strength than before.

December 25th. The sore in his groin is now clean, and is slowly closing; his mouth is not affected. Stop the bath.

January 30th, 1799. The sore has healed up, and he is in all respects well.—Let him be discharged.

#### C A S E V.

CRUSTNAPIC PENAKEER, Sepoy, admitted into the hospital 4th December, 1798, with a phymosis, attended with a considerable swelling of the whole penis, but without much pain. He has chancres on the glans, the number and condition of which, however, cannot at present



present be ascertained. He has been ill for several days, and has taken no medicine. Let him use the Acid Bath daily.

December 18th. He has been in the bath five times; complains of a slight pain in his throat: in other respects much the same. Continue the bath.

December 22d. The swelling has been gradually diminishing for some days past. His gums are discoloured and tender: upon examination, which is now practicable, several ulcers remain on the glans penis, but all healing. Continue the bath.

December 30th. His ulcers are all healed but one, which is clean and nearly well. He complains to-day of fever, which is chiefly severe in the night. The bath was now omitted, and he was directed to use bark, during the interval of the fever, and to take an opiate at night.

January 10th, 1799. By the use of the bark and opiate, the fever has been gradually leaving him; the ulcer on the penis is now healed. Continue the bark and opium.

January 20th. He has been for some days past quite well.—Let him be discharged.

#### C A S E VI.

ETOOGEE BALEKER NAIQUE, grenadier batallion, arrived sick from the island of Ceylon, with nodes on his shin-bones. His left wrist and left ankle joint, are much swelled, rendering both the hand and foot exceedingly weak. Both arms are contracted at the elbow joint, and he complains also of nocturnal pains, with a burning heat in the soles of his feet. Says, that he had the venereal disease many months ago, for which he used mercury, and thought himself cured; that while he



he was on military service at Columbo, in the island of Ceylon, about twelve months ago, after exposure to a heavy shower of rain, he was seized with fever and pains in his limbs, and that he has been confined to the hospital ever since. Says also, that in the progress of his disease, his mouth has been several times made sore by the use of mercury, which always relieved, but never removed his complaint.

He was now put upon the use of a solution of Corrosive Sublimate, which he continued to take for some weeks, and to an extent sufficient to produce a considerable degree of salivation, but with no better success than before. After some interval, and when his mouth was no longer affected by the mercury, he was directed, on the 10th February, 1799, to use the Acid Bath daily.

February 15th. He has been in the bath four times; the swellings are evidently diminished, and he says he is much easier; and that his hand and foot have gained considerable strength since he has used the bath. His mouth is not affected. Continue the bath.

February 18th. The swellings continue to diminish, and his hand and foot to gain strength. Complains that his gums are very hot and painful, with a considerable degree of salivation. Continue the bath.

February 25th. The swelling in his wrist is nearly gone; his ankle also is very much reduced. He is in all respects much better; complains much of his mouth, which he says is worse in the night. Continue the bath.

February 28th. The swellings have nearly disappeared: the contractions of his arms have entirely relaxed, and he has had for some days past the free use of them. He is in all respects greatly improved, and he expresses a hope that he shall soon be able to do duty. His gums continue swelled and painful, but he does not say that the pain or salivation has increased these some days past. Continue the bath.

THIS



THIS last case is the only one of confirmed lues, in which I have tried the use of the Nitric Baths, and from the progress already made, it promises to produce the most beneficial effects. But being ordered at this time to proceed with a detachment of the Bombay army, under the command of Lieutenant Colonel Little, into the Mahratta country, this case is left unfinished, and my experience in more recent cases of the efficacy of the Nitric Bath, has been for the same reason of necessity short.

THOUGH the cases here related are few in number, they go some length to prove two things:

1. THE power possessed by Nitric Acid of destroying the venereal virus.

2. THAT this Acid, when admitted into the circulation, is capable of affecting the gums, and producing salivation. I think it proper to add, that I have frequently used the same medicine internally, in cases of confirmed lues, while mercury had failed, and that, by means of it, I have cured some, and relieved others. Indeed, from my own experience of this remedy, as well as from my opportunities of being acquainted with the practice of others, I entertain no doubt, that when time has cleared away the mists of prejudice, and given room for the operation of experience and truth, the efficacy of this remedy, in removing the venereal disease, will be universally acknowledged: Also I hope it will contribute to the introduction of a new and more useful system of Pathology, together with a just and rational theory of the operation of remedies upon the human frame.

(Signed)

WILLIAM BOAG.

*Bombay, 28th February, 1799.*



L E T T E R

FROM

M R. G R I E V E.

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*Camp near Cannanore, 21st June, 1799.*

*Extract of a Letter from Mr. GRIEVE, Surgeon of his  
Majesty's 77th Regiment.*

I HAVE particular satisfaction in telling you, I have employed the Acid with the fullest success in several cases of lues, where mercury in every form had been repeatedly used to no purpose, and that in one of the most desperate the quantity taken was comparatively small; my former failure must therefore have been occasioned by some fault of the preparation, as there was no great difference observed either in diet or the exhibition of the medicine. Hitherto I have never tried it in any stage of hepatites; but since what you sent last was expended, I have seen two chronic cases, in which I would have given it; and whenever such occur, after I get a fresh supply, I shall give it a fair chance.

Accept my best acknowledgments for putting me in the way of using the Acid with advantage, and believe me to be, &c.

*(Signed)*

W. GRIEVE,  
Surgeon 77th Regiment.

H. SCOTT, Esq. *Bombay.*



LETTER *from Mr. BRYDON, Surgeon of the Earl  
Howe East Indiaman.*

SIR,

WHEN in Bombay you was so good as to present me with your observations on the effects of the Nitric Acid in the cure of Lues Venerea, together with a quantity of that medicine. The result of any trials I have made, I now beg leave to lay before you, although they contain nothing new, my success having been but imperfect; yet I should be wanting in gratitude, did I withhold any thing that could the least assist so useful a discovery. The first patient with whom I tried it was W. RUSE, who had contracted the disease in Calcutta, in form of chancre and bubo. The former soon yielded to mercurial friction and caustic, but the latter continued to increase; till a short time before our arrival in Bombay, it began to discharge by two small openings, but attended with little pain. From its first appearance till this time (a period of nine weeks) mercury was pushed to as great a length as he could bear; but I was now under the necessity of discontinuing it, owing to the ulcerated state of his gums, which it had induced, together with restlessness and loss of appetite. The openings in the groin soon began to spread with thick irregular edges, very painful to the touch, and the discharge became so offensive as to excoriate the parts with which it came in contact. Some of the glands, situated higher, began to swell, but attended with less pain than the former. Bark was now given, but with little effect. On the 3d of July I began the Nitric Acid by your request, but his mouth being still tender, I was soon obliged to discon-



tinue it for some time, though I had given it in smaller doses than you usually do. On repeating it a second time in the former dose, no other inconvenience was produced than foreness of his mouth, with an increased flow of saliva, heat at stomach, and occasional gripes. For the removal of the two latter symptoms, opium seemed to answer.

THE next Case was that of S. ROBERTS, who had his face, breast, and arms, beset with a number of blotches of different sizes, covered with their firm crusts, and several of them containing a quantity of matter underneath. The Acid was at first given him in the quantity of  $\mathfrak{z}\mathfrak{j}\mathfrak{s}$ . to  $\mathfrak{ssij}$ . of water in twenty four hours; but finding that it produced considerable heat, pain of stomach, and at last severe vomiting, I reduced the quantity to  $\mathfrak{z}\mathfrak{j}$ . This he took without any other inconvenience than a slight degree of heat in his chest, till about the seventh day he was affected with unusual flushing of his face, quickness of pulse, and an increased irritability of the whole system. His mouth was by this time very sore, so that I was obliged to desist from any further use of it, being the less solicitous to push it, finding that most of the blotches had disappeared; the few that remained were removed by the unguent. citrinum.

FROM the first of these Cases I may observe, that if it was now venereal, the Acid must be a cure for the disease, as of itself it has no tendency to cure till a specific is applied; but as mercury had previously been used, it may be questioned if the disease was now venereal, or whether it did not partake of scrophula, or even some degree of scorbutus. Whatever cause kept up the symptoms present, it is evident that the Acid had the principal share in the removal of them, as in a short time the sore began to heal, his appetite and strength daily mended, and on the fifteenth day he returned to his duty, with no other com-



plaint than a slight uneasiness from the swelling, which had affected the other glands.

If in the second Case the blotches were venereal (of which I think there was little doubt) they were unquestionably removed by the Acid. In this Case also, the gums were a little inflamed and swelled, with a considerable flow of saliva; but yet I think no more than might be induced by the mechanical operation of the Acid; to ascertain which, and to obviate such inconvenience, might not some mild alkaline solution be used as a wash after each dose of the medicine? This might be of advantage in preserving the teeth from its bad effects, and likewise enable us to judge with more certainty with regard to its operation on the constitution.

*Ship Earl Howe,*  
*Whampore, Nov. 27,*  
*1796.*

I remain, Sir,  
Your much obliged,  
and humble servant,  
W. BRYDON.

(Signed)

P. S. I had almost omitted mentioning, that the blotches with which ROBERTS was affected, have again appeared worse than formerly.



*Extract of a Letter from Mr. KENNEDY, Surgeon, at  
Tanjore, dated 29th November, 1796.*

THOUGH the only Case in which I have had occasion to employ the Nitric Acid, with a bottle of which Dr. Anderson was so kind as to favour me, terminated unfavourably, yet I think the effects of the medicine were well marked in it. It was a Case of suppurated liver, in which the matter was formed so long ago as the month of June last, and remained lodged in it till the 21st of September, when a large abscess burst through the lungs. The Acid, shortly after its being exhibited, mended the appearance of the pus astonishingly, so that it soon became equal in appearance to the best digested pus from an amputated limb; and it was remarkable, that though the man's pulse was generally about one hundred and twenty, he never had either hectic sweats or purging. The discharge from the abscess diminished regularly; but from his becoming daily more emaciated, it was evident that there was still further mischief in the liver. In thirty-five days after the bursting of the first abscess, a second, which must have been a still larger one, burst downwards, when the hectic sweats and purging supervened and carried him off in three or four days afterwards. From the circumstances, I think it probable that in suppurations of the liver, where mercury generally increases or induces hectic fever, that this Nitric Acid may be found a very useful medicine. The Case alone was a most unfavourable, and, probably, an incurable one, and yet in it I thought the effects of the medicine were very distinctly marked.

*Extract of a Letter from Mr. KENNEDY, Surgeon, at  
Tanjore, dated 26th December, 1796.*

THE similarity of the Case I wrote you to that of poor SEIVENERIGHT, often occurred to me. The pus,



when first evacuated, was rather thin, and of a colour something between a light brown and the colour of diluted honey. It was streaked with blood, and the poor man complained very much of the abominably offensive smell and taste of it as it passed through his mouth. When evacuated I had frequent occasion in inspecting it to remark its foetor, which was also so offensive to the people about him, that they were very diligent in removing it. After he had used the Acid some time, it became, as I before described it to you, of the colour of the finest matured pus I ever saw; and if there was any difference, it was in its being whiter and more of a milky appearance. I carried Mr. GOLDIE, who happened to come here while the man was evacuating it, on purpose to see the pus, and his remark was, that he never before had seen such fine pus evacuated from the liver. In this state it lost much of its foetor, and the man complained less of the "rotten" taste in bringing it up. I can only, however, say, that it became less offensive to him, for he complained of it all along; nor should I expect that pus of any kind would ever be inoffensive to the palate, since we know that even blood is not altogether so. The pus in the abscess, which broke downwards, seemed also to have undergone similar changes. The first of it he passed corresponded in colour with what he was then bringing up through his lungs, only that it was thinner and more diluted, being mixed with a greater quantity of other fluids. Upon the whole, it appeared to me that the effects of the Acid in this Case were very distinct, and such as to give good grounds to expect, that in suppurations of the liver it may prove a very valuable medicine. I even think it probable, that had there been only one abscess in this man's liver, that he would have recovered.



LETTER *from* HELENUS SCOTT, M. D.

*Bombay, December 16, 1799.*

DEAR SIR,

I NOW take the liberty of forwarding to you by my friend Dr. Johnson, another Letter on the effects of the Nitric Acid, and a good number of Cases sent me by different Medical Gentlemen here, by which its good effects in Syphilis and Scurvy are ascertained. It has been employed in many cases of Dysentery, especially by Mr. Deane of the 86th Regiment, and with the happiest success.

FURTHER reports of its effects in Syphilis and other diseases will be sent you, which I have no doubt you will get published, if you think they can contribute to forward the progress of science and truth.

I remain,

DEAR SIR,

Your obedient Servant,

H. SCOTT.

Dr. THOMAS BEDDOES.



## LETTER V.\* from Dr. SCOTT.

*Bombay, December 17, 1799.*

IN August 1797, I printed here two short letters, giving an account of some effects that I had observed from bathing in the diluted Acid of Nitre. I was then in great hopes that this new way of applying the remedy might increase its powers, or extend its utility; after further experience I find that I have not been mistaken. I propose, in this paper, to give a general account of the effects that I have observed from the Nitric bath, and a slight sketch of the diseases of this country, for which I should expect it to be useful. I have seen enough of it already to believe, that it is an agent capable of producing more material changes on the human frame, than all the medicated Thermæ of Alexandria or of Rome.

FROM the time of my first observing the effects of the Nitric bath, I occasionally made my patients dip their legs in it. I sometimes saw good effects from this practice in syphilitic and in other cases; and I often observed that, like mercury, it affected the mouth and salivary glands. I soon became anxious to know what effects would arise from immersing the whole surface of the body in this diluted Acid, since effects so considerable had arisen from exposing the legs only to its action. I resolved, therefore, to use myself the Nitric bath, and to continue it as long as I could bear it. From what I had seen, I thought that this might be for several weeks together.

\* The four preceding Letters are inserted in "A Collection of Testimonies, &c." by Dr. Beddoes, 1799. Johnson.



*Bombay, April 27, 1798.*

I BATHED to-day in a wooden tub, which contained water acidulated with Nitric Acid. The bath was made about the temperature of the skin. The whole surface, as high as the neck, was covered, and I remained in it for half an hour. I feel no particular effect from this bath. It is as agreeable as water, and it cleans the skin \* much more effectually.

28th.—I BATHED again to-day. I took out a part of the bath, and then added to it hot water and Nitric Acid. It was above the temperature of my body, and as strongly Acid as the skin could well bear it. I staid in the bath half an hour, and feel no particular effect from it.

29th.—JUST after I had written the report of yesterday, and in less than an hour after I had come out of the bath, I felt, very unexpectedly, some pain in my gums, and I thought that I was inclined to spit more than usual. I was disposed to attribute this to the effects of imagination. To-day I put into the bath, as before, some more Acid with hot water. The bath was rather below the tempe-

\* “ On observing the rapid effect of the Nitric bath in cleansing the skin, it immediately occurred to me that the Nitric Acid might be applied to the purpose of depriving the feathers of aquatic birds of their disagreeable smell. I had observed that the society for the Encouragement of Arts, Manufactures, and Commerce, offer a premium for clearing such feathers from their oil. I took a quantity of the ill-smelling feathers of a duck, and after drying them in the sun, I steeped them for two days in Nitric Acid, so much diluted with water as not to injure their texture. I then dried them well. They smelt for some time afterwards of the Acid; but the foetor of the animal oil had appeared to be quite destroyed. I never repeated the experiment. It would, if successful, be an easy and a cheap method, and may be worthy of the attention of those who are interested in such an art.”



rature of the skin. The pain in my gums, teeth, and jaws, was very sensible during the remainder of this day; and at times there is a secretion of saliva to an uncommon degree.

30th.—I PREPARED my bath as before. It was rather warmer than the body; I remained in it for half an hour. I feel, since yesterday, a pain in my throat, which is attended with some difficulty of swallowing. I have an unusual disposition to spit; my gums, both above and below, are somewhat painful; I am otherwise in good health.

May 1st.—SINCE yesterday I have felt a good deal of pain in the throat, especially on swallowing; and during the whole of this forenoon I had a sensation of burning over the roof my mouth, and down the œsophagus. This sensation resembles what arises from having chewed an acrid vegetable substance, and is so disagreeable, that if it be not diminished, I shall use the bath no more after this day. I remained to-day in the bath for half an hour: it it was so strong as to make my skin smart in many parts.

2d.—MY mouth, though not ulcerated, is painful. I am sufficiently satisfied of the powers of this bath, and shall use it no longer. I find my digestion much improved from it, and I am sensible that the liver, unclogged by disease, is performing its functions with uncommon facility.

It should be observed, that during the days that I bathed, the thermometer in the day-time was commonly from 92 to 96 in the shade, and that I had on my skin a good deal of that excoriation (for it is not an eruption) that we call the prickly heat. This, no doubt, by removing the protection of the cuticle, has made the action of the bath much more rapid than it would otherwise have been.

June 6th.—FOR a fortnight after giving over the bath, my mouth continued sore, and the ptyalism at times was considerable. My pulse, which should not have been more than 85 in a minute, was generally as high as 96, and  
often



often above 100. I felt at times an unusual languor, and I got considerably thinner. There was an uncommon degree of sensibility about me. I am inclined to attribute several of those effects, in some measure, to the great heat of weather. At the end of this time I took an opiate for a few nights, when the spitting went away, and my pulse returned to its ordinary state.

AFTER I became convinced that the Nitric Acid, as a bath, does produce very remarkable effects on the human body, I employed it myself in a variety of cases, and I recommended it to some other gentlemen, who continue to use it. From our experience it appears, that the Nitric bath affects some people more readily than others; nor do I pretend to know the cause of such a difference. Those who resist mercury most, also resist the influence of the Nitric bath. When the bath is made of a proper strength, it irritates the skin to a degree that cannot be said to be painful; but which, no doubt, promotes the absorption of the Acid. If it be made still stronger, it removes little portions of the cuticle, and from this its effects become still more rapid. In order to increase the absorption of the Acid, I have frequently directed people to rub their skin, for some time, with a piece of flannel, before entering the bath, or during their continuance in it; and in obstinate cases I have made them rub the powder of mustard seed, diluted with water, on particular parts, so as to produce a slight degree of excoriation, before they bathed. In many, however, it affects the mouth, without any very sensible action on the skin.

I HAVE sometimes made my patients bathe but once a-day, remaining in the bath for half an hour at a time. On other occasions, I have made them immerse the whole of the surface below the head, twice a day, and even more frequently. With weakly people I have produced a very sufficient effect, by immersing only the legs; and this I have



have done once a-day, or oftener, according to circumstances. If the legs be kept in the bath for half an hour at a time, and if this be repeated four or five times a-day, the effect, in general, is sufficiently considerable. I have sometimes made the bath tepid, and sometimes I have used it cold; but I have commonly been desirous of employing it at a temperature equal to that of the body. If warmer, it produces faintness; if cold, it is apt to be followed by pains that resemble rheumatism. The cold bath is never used by the natives of India, where religion orders perpetual ablutions, unless they are in a situation where warm water cannot be procured.

WHEN the bath is of a proper strength, and when it is employed in the way that I have described, it will, in general, be found to affect the mouth in about eight or ten days. An improved digestion, a remarkable increase of appetite, and sometimes a great flow of urine follow the use of the bath. If it be continued after a considerable affection of the mouth, and ptyalism have come on, the pulse becomes quicker than usual, and a wasting of the body is soon apparent. They are sensible of a perpetual taste of the Acid in the mouth; they constantly smell it, and sometimes think that their saliva has a disagreeable sourness. A considerable degree of weakness is now complained of, and an increased sensibility of the whole system. Under those circumstances I have found that opium gives relief, which does not seem so much the case from wine or animal food. I have not observed that the disagreeable symptoms, which arise from the bath, continue for any length of time after it is given over. With some people I have used the Nitric bath once every day, with one even two months, without intermission; while with others I have been obliged to desist in a few days. I have always employed wooden tubs for the Nitric water, and I have heated it at times by plunging tall jars, filled with



with hot water, into it; at other times, by taking out a part of the bath, and supplying the loss by boiling water, and a proportional quantity of Nitric Acid.

I AM of opinion, that the Nitric Acid is itself absorbed by the body, not that the surface has the power of decomposing it, and absorbing either of its components parts.

## SECTION II.

WE have not many dangerous diseases in Bombay. Those that are most dangerous have a surprisingly great connection with each other, and seem to arise in general from the same remote causes. Of late years the calces of mercury have been considered as the chief remedy for them. Although many other resources of the art are not to be neglected, yet, in my opinion, these ought to be considered as of inferior value. Some people make use of a great variety of remedies for the same disease, such as bark, opium, tartar emetic, wine, and all in conjunction with the calces of mercury. This is apt to lead to great deceptions, with regard to such as are really of utility, and brings new confusion on a subject already sufficiently difficult. I do not deny that advantage may be derived from every one of those remedies, on particular occasions; but I own, without the assistance of the calces of mercury, I should think our art, in some most dangerous diseases, weak and imperfect, while with their aid it is here surprisingly salutary and certain.

I CANNOT pretend to determine to whom we are indebted, for the first application of the calces of mercury to the diseases of this country. Many people have thought that merit due to themselves, from not, perhaps, recollecting that the slightest hint on such a subject, has  
thrown



thrown off the veil before impenetrable, and should stop all farther claims to discovery.

I HAVE read a little manuscript on this subject by Dr. PASLEY, formerly a surgeon at Madras, which was written a great many years ago. He appears to have been a sagacious practitioner, and certainly was well acquainted with the use of mercury, for several of the diseases of this country. I do not know by whom he was preceded in this knowledge, but it is but justice to say, that he applied it with more judgment, and to a greater extent, than had been done before. The analogy that I think exists, in some respects, between the operation of the Nitric Acid and the Mercurial Calces, led me to use the Acid in several disorders where they are acknowledged to be of service. To be more clearly understood, I shall give a slight account of some of those diseases, where I have found benefit from the Acid, or where I should expect it.

*Fever.*—WE have a fever in Bombay, that has been called a typhus fever, and sometimes a nervous or bilious, or putrid fever, according to the stage of the disease, or the fancy of practitioners. It has many of the same symptoms with the typhus of Europe, but I think it is a disease of a very different character; and that the organs that are chiefly concerned, as well as the remote causes that produce it, are widely different. The abdominal viscera principally suffer in this disorder. The brain indeed becomes affected; but this affection seems to arise from a sympathy with other organs, and it is not in itself a dangerous disease. Whatever brings on a morbid state of the liver, brings on occasionally this remitting or continued fever; but the most common cause of it is an aerial fluid that is lighter than the atmosphere. This fluid is evolved from fermenting vegetables, or putrid water.



water. I suppose it is hydrogen gas, for I have great reason to think that it is not azote, nor its compounds. I cannot at present detail the observations that lead me to this belief.

WHEN the body is exposed to the impure air that produces this fever, a greater quantity of bile than usual is formed by the liver, and this sometimes appears before the fever is apparent. I have occasionally been tempted to believe, that this state of the liver was the cause of the fever; but I have more frequently thought that it was an effect of it. The liver seems to endeavour to throw off this noxious air from the system, in the form of bile, and to suffer too often itself from the salutary effort. It is acknowledged by all the native practitioners, that this fever is never contagious, and I entirely subscribe to the opinion.

As the causes that produce this fever are weak in Bombay, we find that it is here but very seldom a dangerous disease, for it readily yields to such a quantity of mercury, as in some degree affects the mouth. The case is very different on the island of Salsette, where the remote causes more abundantly prevail, and where the same fever puts on, during a particular time of the year, a far more dangerous appearance. I am not surprised, that those who have met with this fever under its worst form, should have denied the efficacy of mercury altogether; for I have seen it rage, in some places of Salsette, with so much virulence, that neither mercury nor other remedies appeared in many cases, to be of use. When the fever is strong, from the abundance of its remote causes, there is a great objection to mercury; for, in order to be efficacious, it must be carried to a considerable length. The remedy, in this degree, has a tendency to produce weakness, which is again followed by a relapse of the disease, or a disordered state of the liver.

I HAVE,



I HAVE, in a very few cases of this Salsette fever, given the Nitric Acid internally, and I think with advantage. I should indulge great hopes from the Nitric bath, which I have never had an opportunity of employing; for, by means of it, the system may suddenly be supplied with abundance of oxygen, without the depressive effects that arise from mercury.

I HAVE said this fever is a very different disease from the typhus of Europe, for which I have seen it too often mistaken by practitioners. The typhus I have never met with in India (a few instances only excepted) and those were generated on board of ships. That our disease is quite of a different character, I am perfectly convinced; it is a most important truth, that I cannot too earnestly inculcate. Whether the fever of this country appears under the form of a continued fever, of a remittent, or of an intermittent, its nature is the same, and it should be placed among the intermittents of CULLEN. I think we are not far removed from a more intimate knowledge than we have hitherto had of this disorder.

THIS fever of Bombay, towards the conclusion, often takes an intermittent form, when it is readily stopped by the bark, or still more effectually by keeping the patient, for several hours before the expected attack, under the influence of opium. Until the strength be recovered, there is great danger of the liver becoming disordered, which can only be avoided by giving small quantities of mercury to convalescents. A state of weakness very often gives rise to a disordered liver. May I be allowed to say, that a feeble circulation is favourable in that organ to an accumulation of the resinous base of the bile?

I IMAGINE that this fever is a different disease from the yellow fever of America, or that its character is in some way altered by the difference of climate. Has it  
any



any relation to the Typhus Icterodes of the West Indies? Nobody should give a decision on such a subject, but those who have seen both the diseases, and seen them for a long time.

*Puerperal Fever.*—THERE is a most dangerous fever to which lying-in women are subject in this country. It appears soon after delivery. Its first approaches resemble those of an intermittent; but it soon takes a continued form. Almost as soon as the fever is formed, the region of the uterus becomes very painful, and shortly afterwards the whole abdomen tender and tumid. It is impossible to turn in bed from the extreme sensibility of the bowels, which sometimes feel as if strongly confined by a string. The countenance becomes remarkably dejected; the brain disordered; and death ensues in the course of about a week.

How often, before I discovered the remedy for this disease, have I dreaded its approaches, and lamented its consequences! This remedy is oxygenation by mercury. I have employed it in a good many instances, and for many years, and with the most perfect success. The mouth should be made, without delay, a little tender with calomel, or any other preparation of mercury, while the bowels are kept open by medicine. By this method the disease does soon disappear, or it takes the form of an intermittent, when it may be stopped by opium or the bark. I earnestly recommend my practice in this country to others; and I affirm, that they will then very seldom see the helpless infant deprived of its mother, and the preparations of gladness exchanged for the dismal apparatus of the tomb.

I HAVE not tried the Nitric Acid in such a case, for I have been afraid to lose a moment of time; but I should



should hope that it might be a good substitute for mercury.

THE liver seems to me to be chiefly concerned in producing this disease. It appears to be less able to bear, than any of the other viscera, the great change that happens from parturition.

THE dissection of the dead is apt to lead us to false conclusions with respect to this disease, unless corrected by attentive observation during life. The liver may be found apparently sound after death, while it was really the source of the fever, and consequently of the inflammation of the uterus, and of all the subsequent distress. I imagine that this is the true nature of this fever, and the origin of all the symptoms of the disease; nor do I believe that I have adopted this opinion on a slender foundation.

THIS fever is not contagious. Has it any relation to the puerperal fever of Europe? I see no difference in their symptoms, but I dare not make a conjecture on such a subject.

WE have some other febrile affections besides those that I have mentioned, but they are seldom of much importance, nor do I think that oxygenation would be useful for them.

*Acute Hepatitis.*—THIS disease is not very frequent here. It is seldom attended with danger if properly managed. Blood-letting seems useful, especially to Europeans, soon after their arrival in this country. Blistering sometimes relieves the pain. A very open state of the bowels, a method which nature often employs to relieve herself, is perhaps of much more consequence than either of those remedies; but the danger of the formation of matter can only, with any certainty, be avoided by the use of mercury. Alas! that most  
dismal



dismal of misfortunes is too often induced by the false theories, or the want of experience of practitioners, in this country. I recommend mercury in preference to the Nitric Acid, in all cases that are urgent, for its effect appears to be more rapid. I here speak of the internal use of the Acid, for I have hardly in such cases employed the bath. When there is much danger from delay, the bath may very properly be tried at the same time with mercury. The sources of information on this subject are various and respectable; my object at present is of a different kind.

*Chronic Hepatitis.*—DR. CULLEN has said, that this chronic inflammation is seldom to be certainly known before death, when it is discovered from dissection to have existed by our finding large abscesses in the liver. I am convinced, that it may almost always be known during life, and with a great degree of certainty. It is far more common here than the Acute Hepatitis. That man will resolve the most important problem for the improvement of the practice of medicine, who, with consummate skill, shall ascertain the various derangements of the human frame that arise in this country from the chronic affections of the liver.

MERCURY is no doubt the grand remedy for this species of hepatitis. It very often removes it entirely, or when it does not remove the disease, it alleviates it, and lessens the risk of abscess. It must be acknowledged, however, that mercury affords, in many cases, no more than a temporary relief, and the sick continue to drag on a wretched existence. I have succeeded in some of those cases by the Nitric Acid given internally, and I have known the bath too of great service. I think that oxygen renders this sluggish and obstructed organ pervious and healthy, by giving solubility to the resinous base of



the bile which is collected, from a state of weakness, from long exposure to heat, and from many other causes. It is some confirmation of this opinion, that the relief which arises from the calces of mercury, is often immediately preceded by a purging of bilious matter. From this theory the reason too perhaps appears, why mercury has but little influence in removing diseases of the spleen. It is certainly sometimes of use for the spleen; but it has, in general, appeared to me to be only so far of service as it restores to a healthy state the liver, an organ with which the spleen is so intimately connected. When the Acid is used for hepatitis, much attention should be paid to keeping the bowels very soluble. In such cases I have seen the urine become surprisingly coloured with bile, from the effects of the bath.

*Dysentery.*—THE dysentery of Bombay appears to me always to arise from a disordered secretion of the liver. It is never contagious. The preparations of mercury, if properly employed before ulcerations are formed in the intestines, are very generally successful. If ulcerations be allowed to form, the case is very different; a new disease has now arisen; the glands of the mesentery get enlarged, for which I know of no remedy. It is in vain to restore the liver to a healthy state, for the flux will continue and produce wasting and death. In such cases we are very apt to be deceived by dissection, in regard to the first source of the disease, for the liver will often be found to be apparently found after death, while the affection of the intestines and mesentery, that were its consequences, had become in their turn the causes of the dysentery. I have tried, or I have seen the Nitric bath tried by others, in many cases of dysentery, and with advantage. We have also employed the Acid internally in this disease with success.

*Dysentery*



*Dysentery and Cholera Morbus of Children.*—VERY young children in this country are sometimes suddenly taken with a purging, so that in a few hours they have fifteen or twenty motions. The frequency of the discharges then in general abates, but still the disease goes on for a day or two, when they die. I believe that, like our dysentery, this disease arises from a disordered secretion of the liver. This complaint has been very generally fatal at this place; but of late years I have known some very happy recoveries from rubbing the infants freely with mercurial ointment. I have done so at the age of a fortnight, and with the best effect. Those little creatures resist the effects of mercury in a surprising manner. On the least appearance of redness of the gums, or other affection of the mouth, the ointment should be carefully washed from the skin. It will, in general, be found, that the disease gives way before any affection of the mouth appears, and that we shall be allowed time to proceed with caution. It will be fortunate if the Nitric Acid bath shall prove of the same value with mercury in cases of this kind; for, although I use mercury with infants without hesitation, I do not employ it without fear. The dreadful consequences that would arise from making a child's mouth very sore with mercury, must be apparent to every person.

*Ascites.*—I HAVE seen very happy effects in this disease from the Nitric Acid internally, and as a bath, which have led me to suppose that it was of that species that arises from a diseased liver.

*Asthma Spontaneum.*—I ONCE saw an extraordinary cure of an Armenian merchant in this disease. He had been ill of it for several years. The fits returned at the distance of about a month from each other, and he remained in



great distress with each paroxysm for about five days at a time. During a very violent fit, in which he seemed to run a great risk of suffocation, Mr. Steuart, Dr. Keir, and myself, put him into a tepid Nitric bath. By the time that he had remained in it for half an hour, he expressed a sense of relief. In two hours more we were obliged to repeat the bath, as his distress had returned. After being a quarter of an hour in the second bath, he said he was surprisngly better, and he staid in it for above half an hour, and was unwilling to leave it. He slept with comfort during the ensuing night, and afterwards continued to mend. The bath was used for some days together, until a considerable affection of the mouth was produced. He remains ever since, and it is now fifteen months ago, in very good health. This is not the only case in which I have known the Nitric Acid of use in asthma; but I have never seen the sense of relief to arise so very suddenly as in this instance; but I have but little experience yet of the bath in this disease.

*Syphilis.*—I CAN have no doubt but that the Nitric bath will become a very useful agent for the cure of syphilis. I believe that many of the failures of the Acid in curing lues, have arisen from too small a quantity of it being in the habit. Although it is certain that it cures syphilis without affecting the mouth, yet in general I do not find that the symptoms in bad cases begin to yield 'till the mouth be considerably sensible of it. It is desirable, even in recent cases, that the affection of the mouth should be apparent, as an index of the quantity of Acid that has been absorbed. We have found that the bath alone removes very happily, not only the primary but the secondary symptoms of lues. In obstinate cases the body may be bathed in the Acid several times a-day; on other occasions it will be sufficient to keep the legs in it  
for



for half an hour at a time, and to repeat this four, five, or six times a-day, according to circumstances. I have seen chancres, buboes, &c. very readily go away by bathing the lower extremities in this manner, without any application to the parts affected. When the most powerful effect is required, the body may be frequently immersed in the Acid bath, of as great a strength as the skin can bear it, while it is taken internally in as large a quantity as the stomach will permit. By varying the means of absorption, by giving over the use of the Acid for a time, and by persevering for months together, I have certainly seen cures produced where mercury had entirely failed, and where I think it never would have succeeded. The Acid bath, as I suppose cold water would do in the same circumstances, is apt to produce a kind of rheumatism which resembles venereal pains. I have observed that these go off in a short time by giving up the use of the bath.

THE result of our experience of late seems to be, that by the bath, or by combining the internal use of the Acid with its external application, we succeed in hopeless cases where mercury had failed; in other instances, however, of a similar nature, I have failed by the Acid. When the bones are highly diseased, a long time is required to restore them to health, even after the poison of syphilis is neutralized. I think I have observed in some instances, that the immediate relief from pain is not so decided from the Acid as from mercury, even where its permanently good effects have been far more considerable.

IN recent cases of syphilis we have been much more successful; I am hardly able in truth to record but very few instances of failure. Some cases have been more troublesome and more tedious than others, but they have given way in the end.

WITH respect to the permanency of the cures by the  
F 3 Acid,



Acid, we have reason to think that at least they are not less so than those from mercury; but I make it a practice, even in the recent disease, to affect the mouth by it, or to produce some very evident affection of the system.

I HAVE been blamed for giving too warm a testimony of my success. I have, however, nothing to detract from the first letter that I published on the subject. I have always allowed, that where mercury had failed, I have too often failed with the Acid. I hope that by the assistance of the bath we shall be still more fortunate in future, for it has put us in possession of a power that may be much increased or diminished, according to the quantity of resistance.

*Elephantiasis.*—THIS shocking disease is not uncommon here, and we often see poor wretches who linger under it for years together, before the welcome deliverance of death. The Indians give arsenic for it, and occasionally with success. They do not communicate it to their wives. They are avoided chiefly from their disgusting appearance, or the ill smell of their sores and breath.

SOME months ago I put a man, with severe symptoms of the elephantiasis, into a Nitric bath. In less than six weeks his skin became softer, and his limbs less stiff. He has continued the bath almost ever since, with a slight affection of the mouth. The various ulcerations that were on his hands and feet, and other parts, have disappeared. His skin is pliable, and nearly of an equal thickness every where. His health is good, nor can I observe much appearance of disease about him. He has lost the leonine aspect which he had, in a frightful degree. This is the only case of elephantiasis in which I have tried the bath, but it is a strong one, and is conclusive, so far as a solitary instance can be so.

ON ne doit ni s'assurer aisément de voir ce que les  
2 plus



plus grands hommes n'ont pas vu, ni en désespérer entièrement.

*Small-pox.*—VERY hot weather puts an end here to the small-pox, which appears again in the cold season. Is this from a certain degree of heat, enabling some part of the atmosphere to combine with that poison and render it harmless? Would the Nitric bath, used after inoculation, and before the appearance of the eruptive fever, make the subsequent disease more virulent or more mild? I have thought that mercury increases the ill symptoms of that disease; but on the other hand it is said, that nitrous air renders this poison altogether inert.

*Scurvy.*—WHEN Admiral Rainier was here last year, I frequently mentioned to him a desire of having the Nitric Acid tried for scurvy on board of his ships. He expressed great willingness to forward my wishes, and on his sailing from Bombay I gave him a quantity of Acid, which he sent to several of his surgeons, with a desire that it might be given in scurvy. The little memorial that I wrote, he also put into the hands of those gentlemen. It gave some directions about using the Acid internally and externally; and it expressed my hopes, from the nature of the disease, as well as from the effect of vegetables and vegetable Acids in curing it, that the Nitric Acid, which so readily parts with its oxygen, might have an influence of a similar kind. It has been tried with success, as will appear by the accompanying Cases from two of the surgeons of the ships where scurvy made its appearance. From the character of those gentlemen, I cannot have a doubt of their accuracy; and I am further authorized by the Admiral to say, that the report was made with his knowledge and approbation. This is a disorder in which I myself have had no kind of experience.



## SECTION III.

THE great law for the cure of most of the diseases that I have mentioned, is certainly *Oxygenation*. I have come to such a conclusion by no sudden, by no brilliant effort of the mind. It is deduced from long and patient observation of the sick, and from numerous dissections of the dead. It is agreeable to the experience of many practitioners. From the beginning it has been my object to inculcate this *general rule*, in certain diseases not to recommend a *specific* in any particular complaint\*. At an early period I beheld its importance. It will not only assist us in curing many of the most dreadful complaints of this country, but it will throw a new light on their hidden nature.

THE forms of diseases varying by seasons, by constitution, and by a thousand circumstances natural and moral, afford a flitting and almost inaccessible object of speculation to the ablest mind. When a botanist first sees our plants, he is confounded with the variety of new appearances; and it is only by time and attention that he can distinguish every individual among them; but many of the practitioners of medicine proceed with less caution in a far more difficult art. They describe diseases, and form theories, in security from detection, by the obscure nature of the subject itself. Let it never be supposed that any thing that I have said about the diseases of Bombay, is to be transferred to those of Europe, for nobody can be more certainly convinced than I am of the difference of their character. I should little expect that a remedy that  
can

\* Here Dr. Scott's copyist has made some blunder—should not "in certain diseases" be omitted? Editor.



can cure a fever, the source of which is placed in the viscera of the abdomen, should with equal efficacy remove a fever which depends on an affection of the brain.

ANY one who has seen the Nitric Acid applied to a bit of tin or iron, is convinced that it has communicated something to those metals. I am equally convinced, that by means of absorption and of circulation, it communicates something to every portion of the living mass, in spite of the resistance of vitality. I am surprised that people, who are in the habit of oxygenating inanimate substances with the Nitric Acid, should not long ago have thought of oxygenating their own bodies with it; but I was led to this, as I have related, by an accidental observation which made a great impression on my mind.

I OUGHT not, I think, to be charged with a love of theory. I have ventured in my reasonings to proceed but a very little way, and that no farther than the known laws of mechanism or of chemistry seem to permit me. I have not used such words as *spasm*, or *irritability*, or *action*, although I might have done so by the authority of some of the ablest of our philosophers, for I am sensible that I have not a sufficiently distinct idea of the state or change which they express. When we know more of the operations of life, we shall be able to reject these unknown quantities from the terms of our analysis.

It may be thought that I should have acknowledged some obligation to Dr. GIRTANNER; for he had supposed before me, that the oxygen of the mercurial calces, and not the metal itself, is the active principle in the living body. The truth is, that I had formed an opinion of the operation of the mercurial calces from the effects of the Nitric Acid, a considerable time before I met with an extract of the theory of the Doctor. I saw two substances of a different composition perform the same effects. I therefore concluded, that it is the principle which  
is



is common to both that performed them. Although I agree with Dr. GIRTANNER, that some of the good effects of the metallic calces do arise from their oxygen, yet I am certain that many of their most remarkable effects in the habit are produced by the metal. It is no argument to say, that without the oxygen the metal remains nearly inert in the intestinal canal. A considerable quantity of oxygen will be found to produce no very sensible effect in the same situation. They must be united, to enable them to enter the system by absorption from the skin or primæ viæ. How the Doctor could distinguish the effects of the metal from those of its oxygen, I do not know; nor would such a notion have appeared to me any thing better than a mere conjecture, unless I had before adopted an opinion that to a certain degree coincides with it, but from a different sort of evidence. I use the word *conjecture*, for I admit the sentiment of Mr. PALEY, that "he alone *discovers who proves.*"

I HAVE already seen enough of the effects of the Nitric bath, to lead me to believe that it, or a bath of a similar constitution, will remain among mankind as a remedy for some of their evils, and that it will occasionally lighten the burthen of life. I shall indeed have obtained the whole reward that ever I desired, when it is found that the noble task is accomplished which I proposed to myself in the beginning, *of extending a little the limits of the healing art.*

H. SCOTT.



LETTER *from Mr. M<sup>c</sup> GRIGOR to Dr. BEDDOES.*

*Bombay, 8th December, 1799.*

DEAR SIR,

ABOUT two years ago, I sent you the result of my trials of Nitric Acid in Syphilis. I continued the use of the Acid in Jersey, in England, and on the voyage to the Cape of Good Hope; but I can only say in general, that I was successful: our changing situations did not allow me to keep regular journals of my cases. The Nitric Acid not being a medicine allowed by the Army Medical Board, it was but a very small quantity of it that I could carry out with me from Portsmouth. Having a good supply of Sulphuric Acid, I attempted to use it as a substitute, but with no success.

I PURCHASED a supply of Nitric Acid at the Cape of Good Hope, and used it in a disease very different from Syphilis, in a contagious Dysentery, which very generally prevailed in the fleet. I was led to use it in this disease from analogy, having seen it most successfully treated with mercurial preparations in the West Indies, and observed it only to succeed when it induced salivation.

AT a future period I shall send you accounts of the extensive use of the Nitric Acid in Dysentery and Hepatitis. I at present transmit my trials of the Acid in Syphilis. In my hospital I have used no Mercury in the venereal cases. I shall proceed to give you a short abstract of them from the Regimental Case Book.

I. THE first case that appeared in this country was, that of Mr. T——r. On the 24th of June last, he shewed me two chancres on the prepuce, and one on the glans;



glans; they were of five days duration. I gave him two drachms and a half daily till the 29th, when, observing the chancres larger, I increased the dose of the Acid to four, and latterly to five drachms in the day. On the 8th of July the ulcers looked clean and contracted; his mouth was slightly affected. On the 12th the ulcers had disappeared, and his mouth was very sore.

II. On the 7th of July, Corporal SCOTT was admitted into the hospital with a gonorrhœa of three days standing. He was ordered to drink along with water two drachms of the Acid daily, and frequently to inject milk and water. On the 20th he was dismissed cured; but applied again on the 26th, his running having returned. He was now ordered both to take the Acid internally in the same dose, and to use the Nitric bath. In the course of eight days a salivation was induced, and on the 4th of August he was dismissed cured.

III. TIMOTHY CAULFIELD had laboured under venereal complaints for the last two years; for these I had treated him with a variety of mercurial preparations, with Mezereon, with the decoction of the woods, and with this and Mercury conjoined; but though Mercury never failed to give him temporary relief, he always returned to the hospital after a short interval. On the 9th of July last he was received into the hospital, having four ulcers on his neck and throat, severe nocturnal pains of the hard bones, and a considerable swelling of the right knee-joint. I ordered him the Acid, and began with small doses. I gradually increased the dose, and by the 1st of September, it had twice slightly affected his mouth, though with little apparent benefit. By the 20th of September, however, the swelling in the knee had greatly decreased, the ulcers were quite healed up, but he still complained of the pains of his bones, though by using the Nitric bath, and taking at the same time seven drachms of the Acid daily  
for



for the last ten days, a severe salivation was induced. On the 5th of October no symptom remained but a little swelling of the knee; his general health was excellent and his looks very healthy, yet he complained of the severity of his pains, and fresh pains in his shoulders and hip-joints; For these I ordered him nothing but frictions, and dismissed him on the 13th of October, cured.

IV. DRUMMER CLARKE applied for admission on the 11th of July last. Endeavouring to stop a gonorrhæa, he had a swelling in the right testicle and suppression of urine. By means of leeches and topical applications, the swelling was reduced, and he made water with ease; but on the 16th of July, he shewed me the right inguinal glans swelled. I ordered him to use the Nitric bath, and to take Acid internally at the same time. A violent salivation was quickly induced. I measured the quantity of saliva secreted during one day, and found it to exceed a quart. By the 12th of August, every symptom had disappeared, and he was dismissed.

JAMES OWENS on the 17th of July was admitted into the hospital, having a gonorrhæa. He had been dismissed as cured only ten days before, having been treated solely with astringent injections. I ordered him the Acid internally, and to use the bath. By the 4th of August he was well, and on the 12th I dismissed him for duty; his mouth had not been affected.

VI. SAMUEL MERRIN came into the hospital on the 17th of July. He had likewise been only discharged ten days before as cured by injections. I put him on the same treatment as the last patient, viz. Owens. Though the ardor urinæ was removed, and though the salivary glans had been affected, yet on the 28th of August he had considerable running. I at this time ordered him an injection with the vitriolated Zinc, and on the 8th of September returned him for duty.

VII. PHILIP



VII. PHILIP CLARKE was received into the hospital on the 19th of July. He said that he had exposed himself to infection a few days before he embarked from England for India, but never since. This was in December 1798, after which he had a bubo in the left groin which suppurated, and which, from the intractable nature of the patient, was about three months in healing. Notwithstanding the irregular manner in which he took his medicines, his mouth was kept affected for many days; but the accuracy of his statement cannot be depended upon. At this time he complained of pains of the frontal bone, ulnæ and tibiæ. The left groin was ulcerated and callous. The palate and fauces retained marks of ulcers, though none could at present be seen. He was immediately ordered to use the Nitric bath, and was likewise directed to take six drachms of the Acid daily, which was in a short time increased to an ounce in the same time. By the 20th of August his mouth had been severely affected, and on the 4th of September I dismissed him for duty, free of all complaints.

PAT. DALY came into the hospital on the 19th of July, with a gonorrhœa. From the time of his admission till the 19th of August, he was treated with the Acid alone, as at that time there was still a good deal of discharge from the urethra, though the scalding was gone. I ordered him an injection with vitriol, and dismissed him 26th of August.

IX. DRUMMER LANGLEY, on the 20th of July shewed me three venereal ulcers on the prepuce, of but two days standing. For the first two days I only touched them with blue vitriol; but on the 23d, finding them little altered, and as he complained of uneasiness in his groin, I ordered him to use the Nitric bath, and likewise to drink the Acid mixture. His mouth was affected in twelve days, and on the 8th of August I dismissed him cured.

X. HENRY



X. HENRY HANDFIELD was admitted on 21<sup>st</sup> July, with three chancres on the prepuce, and one on the glans, of five days duration. For three days after his admission, these were touched with blue vitriol, and he was merely directed to keep them clean. On the 24<sup>th</sup> he shewed me large swelling in the right groin. The chancres appeared to be healing very fast. The Acid mixture and bath were immediately ordered, till his gums were slightly affected; yet the tumor advanced to suppuration, and on the 6<sup>th</sup> August it broke and discharged purulent matter freely. The Acid was resumed till his gums were a second time affected, and a considerable flow of saliva induced. With the use of digestive ointment only, and the occasional application of blue vitriol to the edges when callous, the sore in his groin healed up, and on the 2<sup>d</sup> September he was dismissed in perfect health.

XI. ON 7<sup>th</sup> of August JAMES PERKINS shewed me a foul ulcer, larger than a shilling, on the prepuce including the frænum. On the 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup>, I touched it with lunar caustic: but as at this time the ulcer still was foul and continued to spread, and as he complained of his right groin, I ordered him the Acid mixture and bath. On examination I could feel no swelling or hardness in his groin at this period. On the 19<sup>th</sup> the appearance of his sore was not mended, but all continued well in his groin. The dose of the Acid taken internally, was at this time increased from six drachms to an ounce in the day, the bath being used at the same time. On the 26<sup>th</sup> the ulcer was unaltered; though his appetite was very good, yet he looked very thin, was extremely irritable, and complained of great weakness. His gums had by this time been twice affected slightly. The Acid was now stopped, and he took no medicine till the 1<sup>st</sup> September. At this time the ulcer looked very foul, and had greatly increased; his irritability had somewhat worn off, and he was ordered



dered to resume the Acid. By the 15th September the ulcer had diminished to half its original size, and was very clean; to the 22d it continued to heal, though I thought very slowly, but he again became very irritable and feeble, and though he eat well, he looked very thin. The further use of the Acid was stopped, and he was ordered three drachms of Peruvian bark daily, with wine, and a nourishing diet. On the 27th he surprised me, by shewing a swelling in his left groin, after the ulcer on the prepuce had totally disappeared. The Acid was again resumed, and the bark, &c. continued. The bubo continued to increase for five days, but about this time, he a third time complained of a foreness of his gums, which was kept up for several days, till there was a great discharge of saliva, when the Acid was stopped. The bubo continued to discuss from the 3d of October; and on the 9th it totally disappeared. But I thought it prudent to give him the Acid in small quantities till the 19th, when he was dismissed.

XII. ON 12th August MICHAEL BRACKEN applied to me for a gonorrhœa of two days standing. I ordered him to inject milk and water frequently, gave him the Acid mixture, and desired him to go three times a-day into the Nitric bath. This treatment I continued till the 8th September. Though he had at this time very little scalding, the running continued unabated. I stopped the Acid, and gave him an astringent injection. On 30th September he was dismissed cured. In this case the gums were affected.

XIII. August 27th. WILLIAM SIMS was received into the hospital, with two chancres on the prepuce; and what appeared to be an excoriation of the glans. The chancres were of several days standing; and he complained of his groin, though on examination no hardness could be felt. He was immediately ordered to drink the Acid, and  
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to use the Nitric bath three times a-day. September 22d, the ulcers had contracted, and cicatrization was advancing. September 28th, he was sent to do duty. In this case the mouth had not been affected by the Acid.

XIV. JOHN HAYWOOD, of the 84th regiment, in April last got a severe venereal complaint at Madras, of which a chancre had been the first symptom. In August, he came to Bombay, and was under the care of Mr. SCOTT, surgeon to the 84th regiment, who, after a trial of different mercurial preparations, and having twice induced a slight salivation with no benefit, on consultation with several gentlemen of the medical line, was led to order him the Acid. He had only been a few days on this treatment, when the 84th regiment was ordered from Bombay to Goa. He was one of six men whom it was judged unsafe to move, and who were left under my care. When I first saw him on 30th August, he was a most emaciated figure; a bubo which he had in the left groin, had spread upwards to the umbilical region, was very foul and foetid, of about 16 inches in circumference, very deep, having made its way through the integuments, and part of the oblique muscle, and with the edges unequal and spreading. In consequence of the immense discharge from this ulcer, he was extremely debilitated, and even had hectic symptoms. From the irritable state of his stomach for some days, I could only get him to take two drachms of the Acid daily. Along with this were given wine liberally, and what diet he chose. On the 6th September, the ulcer looked rather cleaner, but the progress of it did not appear to be stopt, the discharge was very great, so as to render it necessary to dress the ulcer four times a-day. Considering his extremely debilitated appearance, his appetite at this time amazed us. I was enabled at this time to increase the dose of the Acid to

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half



half an ounce in the day, and ordered a strong mixture of the Acid to be rubbed in warm every morning and evening, into the inside of his legs and arms for half an hour. I at the same time gave him three drachms of bark in the day. On the 13th, he complained much of his gums, and the use of the Acid was stopt for three days. On the 16th it was resumed; his ulcer now looked clean, and granulations could be seen at the bottom, but the discharge was immense; his appetite however kept pace with it. On the 22d, the ulcer had greatly narrowed; on the 29th, cicatrization was advancing by the formation of a cicatrix on the flexure of the thigh: the original ulcer was now formed into two small sores, but his mouth being a second time very painful, the use of the Acid was again stopt. October 5th, the ulcer is nearly skinned over, his general health is good, but he is not yet able to walk. He was ordered to go into the Acid bath three times a-day. October 12th, the ulcer is quite healed, but he complains of diarrhoea. Sift. P. C. Peruv. 26th, He was in the most perfect health, and sent to join his regiment.

XV. SERJEANT BRISCOE of the 84th regiment, embarked the 1st of September for Goa, having a bubo which had been open for ten days, and discharging very freely. After being on board two days, his fore looked so bad, that though the voyage was only for a few days, Mr. Scott, his surgeon, thought it unsafe to take him along with him, and on the 3d he was sent on shore. When I received him he had a foetid ulcer with high edges, including both sets of the left inguinal glands, and spreading beyond them both above and below, its length was not less than eight inches; it was very deep, the lower inguinal glands were bare, and at first sight I thought I saw the femoral artery, and though this was not then actually the case, the discharge from the fore for the first six days was so very great, and the ulcer spread so much, that I had  
the



the greatest fears for it. I immediately ordered him as much of the Acid mixture as he could drink in the day, and to keep his legs and arms in the Nitric bath for half an hour three times a day. On the 4th, to the Acid I conjoined half an ounce of Peruvian bark daily, wine, and what diet he could eat. On the 11th, he complained of his gums, the progress of the ulcer had been stopped, it looked clean, and his general health was good. His gums were kept sore four days, but as he then spat a great deal, the Acid was intermitted. On the 19th, the ulcer looked healthy, and he resumed the Acid. The sore continued to heal till the 2d of October, when there being a second time a flow of saliva, the Acid was stopped again. On the 12th, the sore had the most favourable appearance, his gums being well; he was ordered three times a day to bathe as much of his body as he could. He continued to recover till the 1st of November, when the ulcer had a firm cicatrize, and he was sent to his regiment. At the time of his dismission the left inguinal glands had a hard schirrhous feel.

XVI. September 10th. SERJEANT SHARP shewed me a swelling in his right groin, of the size of a pullet's egg; it was but of three days duration. He assured me that he had had no previous venereal symptom, and on examination I could perceive neither ulcer nor any appearance of gonorrhœa. He confessed that he had a very suspicious connection eight days before. I ordered leeches to the swelling, and by every other means in my power endeavoured to disperse it. I at the same time ordered him the Acid bath and mixture. Till the 17th, the swelling continued to increase, was extremely painful, and it was now circumscribed, and felt very soft. He began about this time to spit freely. From this period the pain went off, and from the 20th, I could observe the swelling daily decrease. On the 22d he spit so much, that I ordered him to desist



from the bath ; it was resumed in three days, but again increasing the salivary discharge, the Acid was entirely stopt. On the 29th, the swelling was greatly reduced. October 5th, it continued decreasing ; 12th, though there still remained a little swelling and hardness of the glands, there was no pain from it. By the 18th, it had totally disappeared, and he was dismissed.

XVII. CHARLES WOOD was received into the hospital on the 12th September. He then had an extensive ulcer of the soft parts of the nose, including the cartilage, and the nasal bones were extremely painful. He had no primary symptom, and denies having had any venereal complaint for the last twelve months. On looking into the fauces, marks of extensive old sores were discovered, the velum pendulum quite gone. He was ordered the Nitric bath and mixture as soon as admitted. On the 22d, the discharge from his nose was very considerable, and the ulcer seemed to spread.

October 5th. THE quantity of the Acid has been very considerably increased, with no change in the ulcer : though not foetid, the discharge still considerable ; the mouth not affected. October 12th, his nose is in the same state ; he complains much of his right wrist, though nothing can be seen or felt there—14th, The Acid was stopt, and not given again till the 23d ; during this time the ulcer gained considerably, the pain of his wrist increased, and a swelling of the lower end of the ulna, to the extent of six inches, could be distinctly felt.—26th, No alteration, the dose of the Acid was increased to two ounces in the day. November 2d, No pain and little discharge from his nose, pain of wrist very severe, the swelling of the ulna increased ; and he complained of the right tibia, though nothing could be felt there.

November 9th. THE progress of the ulcer in his nose has been completely stopt ; it now heals, though still very  
painful,



painful, the node on the ulna does not increase, and the pain of the tibia is now gone : his gums are not yet affected. *Capiat Acidi in Mistura*, ℥ij. 3ij. *quot.* November the 16th, Nose entirely cured, the progress of the node on the ulna stopt ; he feels less pain. 18th, As he complained much of his bowels, and passed some blood with his stools, the Acid was again stopped. 23d, The nodous swelling considerably lessened, but he still complains of much pain at night ; the Acid again given, but in smaller quantities. November the 30th, The exostosis is now reduced to half the size which at one time it was, but he still complains of pains in his limbs.

XVIII. DRUMMER LANGLEY, applied on 22d September, with a gonorrhœa of one day's duration. I ordered him a purgative, and desired him to use the hospital injection often. There was little alteration in the running till the 11th of October, when it was less ; but he then shewed a slight swelling of the left inguinal glands. He was ordered to go into the Nitric bath three times a day. 19th, The swelling increased, but continues hard and attended with little pain. By the 26th, it had greatly increased, and it was inflamed and very painful. The inflammation spread to the abdominal integuments. *Utatur Mistura et Baln. Nitros.* November 2d, feels his mouth slightly affected, and the pain and swelling considerably diminished. 16th, The bubo for the last eight days has been in an indolent state. *Siste Acid.* He was ordered to take exercise. 23d, The bubo soft, painful, and advancing to suppuration. *Utatur et Baln. et Mistur. Acid.* November the 30th, a small opening was made into the bubo, which gave vent to much purulent matter ; there is a discharge to about ten ounces daily from the salivary glands. December the 7th, a little matter oozes out from one ; swelling of the groin disappearing very fast ; health good. *Pergat in us Acid.*



XIX. CHARLES TAYLOR, a drummer, on the 22d of September, shewed me a swelling of the left inguinal glands. Leeches and discutients were ineffectually tried for three days. On the 25th, he was ordered to use the Nitric bath; but notwithstanding his gums being affected on the 4th of October, and spitting profusely on the 6th, the swelling continued to advance, was circumscribed, and became very painful. By the 19th, it advanced to supuration, and discharged much purulent matter. 26th, It continued to discharge very profusely. Along with the Acid he was ordered to take three drachms of bark daily, and on the 20th of November he was dismissed cured.

XX. CORPORAL BOWLES, on the 25th of September shewed me a large bubo, for which a black doctor had given him a great many powders for the last two months. Though the bubo on his admission felt soft, I immediately put him on the Acid treatment, external and internal. On the 29th, he complained of his gums. October 2d I was sensible of the bubo being less, and there was a considerable flow of saliva. On the 12th, no swelling could be felt in his groin. On the 19th, he was dismissed. On his admission his general health was very bad, but when dismissed it was excellent.

XXI. ON the 13th of October, WILLIAM TURNER shewed me a very foul ulcer, occupying nearly one half of the glans penis, and several small excoriations on the prepuce; he acknowledged their being of six days continuance. He was ordered frequently to wash them, and I put him on the Nitric treatment. October 15th, an enlargement of the right inguinal glands appeared; the strength of the acid mixture was increased. By the 26th, the bubo had disappeared, and the chancres were clean. On the 16th of November, he was dismissed cured.

XXII. JOHN MACGHEE, on the 13th of October, applied for admission with several ulcers on the glans and prepuce. They were of eight days duration, and he acknowledged



knowned getting them from the same source as Turner. On his admission he had a phymosis. The same treatment as for Turner was ordered him. 20th, Prepuce easily retracted, ulcers clean, and he spits much. The Acid was omitted five days and then resumed. October 26th, chancres look healthy, but he complains of pain in his groin, though on examination no swelling could be felt. November 2d, Two of his chancres are healed, and the other looks well. 16th, All the chancres cicatrized. November 23d, he was dismissed cured.

XXIII. CORPORAL MOLDEN, on the 15th of October, applied to me with several small chancres on the prepuce. For three days he was merely ordered to wash them with a weak solution of vitriolated Zinc; but as at the end of this time they neither disappeared nor lessened, I ordered him the Acid mixture, and desired him to go three times a day into the Nitric bath. October 26th, they looked clean, and were nearly skinned over; and on the 2d of November, he was sent to his company.

XXIV. JOHN M<sup>c</sup>ELVY, on the 16th of October, shewed me an extensive ulcer on the prepuce, which included the frænum. For two days it was touched with blue vitriol, but the Nitric bath was ordered at the same time, and persisted in till the 9th of November, when he was dismissed cured. Eight days before his dismissal he complained of his gums, and they were plainly seen red and swelled as from Mercury.

XXV. MICHAEL JORDAN, on the 18th of October, for several small ulcers on the prepuce, and a deep one on the corona glandis, was ordered the Acid internally and externally. 26th, Sores clean. November the 2d, they contract, and the gums are tender. November 23d, the sores on the prepuce have disappeared. December 1st, he was dismissed cured.



XXVI. SERJEANT SHARP, on the 5th of October, applied to me. The prepuce could with difficulty be retracted, and behind it was a deep and very foul ulcer. Poultices were ordered to the penis, milk and water was injected betwixt the prepuce and glans, and he was immediately put on the Acid treatment, as before, which in five days affected his gums. It was stopped; and on the 2d of November, resumed in smaller quantity, at which time the ulcer looked very healthy. By November the 6th, it had disappeared, and he was sent to his company.

XXVII. SERJEANT POWERS, on the 6th of November, applied with a gonorrhœa, and had much ardor urinæ. Till the 3d of December, he was treated with occasional purgatives, the frequent use of an astringent injection, and took some Nitre in powder; but the running at this time being little abated, and the scalding as violent as ever, he was ordered the Acid bath and mixture; at this period he took of the Acid, in mixture, one ounce daily, and at the same time to use the bath three times a-day. December 7th, he has no scalding and very little running, but he is ordered to continue his medicines.

XXVIII. A GENTLEMAN, on the 21st of June, discovered a small chancre on the glans, which was immediately destroyed with caustic; Mercury was instantly taken, and continued till the mouth was affected. In two days, the original chancre had disappeared, but another small one was observed near the frænum, which continued stationary, while the effects of the Mercury remained, which was about ten days. Finding the sore at this time indisposed to heal, three drachms of Nitric Acid were taken daily, and increased gradually to an ounce, and cloths whetted in a mixture of nearly the same strength, were applied to the lower extremities every night. This treatment was continued for twelve days. At the end of this time,



time, the Acid, being taken to the extent of an ounce daily, excited nausea and vomiting; the chancre had uniformly spread, and became extremely tender. This obliged him to have again recourse to Mercury, by means of which the ulcer was healed in a fortnight, and a bubo, which began to appear three days before the Acid was left off, arrested in its progress. In this case the Acid did not affect the mouth, probably from not being taken in sufficient quantity, and the cure was completed by Mercury.

XXIX. Mr. N——H, for chancres and an incipient bubo, got the Acid mixture. In the course of eighteen days the bubo was discoloured, and his ulcers looked clean, and began to contract; but hearing of the above case, insisted on having Mercury.

XXX. Mr. I——R (the first case) on the 5th of October, sent for me to look at some chancres of a few days continuance. He was a particular friend of the last patient. I ordered him mercurial medicines; and by his own particular desire, as he said he found the four medicine preserved him an appetite during his cure, which he never enjoyed under a mercurial course, I added the Acid mixture to the blue pill, and in thirteen days every venereal symptom was removed, his mouth being likewise gently affected.

XXXI. T. R——, Esq. got the venereal infection on the 8th of August, and in two days an extensive ulcer appeared on the prepuce. I gave him daily three grains of calomel, with a proportion of opium; but this disagreeing with him, I soon after gave him the blue pill to about half a scruple daily. Though it did not immediately occasion nausea, he became dyspeptic. I offered the Acid, which he refused to take. I ordered mercurial frictions, but about the time he began this the left inguinal glands swelled; the frictions were continued, and the swelling subsided; but his general health suffered so much, and he  
 WAS



was so much reduced, as to be entirely confined to bed. The Acid was again offered, but he still refused it. The Mercury was entirely stopt; his habit had ever been a very irritable one, and perhaps this was increased by a wound of the lungs, which he had received about two years before. Bark, preparations of iron, and other tonics were now cautiously tried; but under their use the right axillary glands swelling, he himself became extremely alarmed, and particularly as he observed that he had at this time taken four times the quantity of Mercury without affecting his mouth, which, for former and equally severe complaints of the same nature, he had ever taken. He himself called for the Acid, and began the mixture and bath on the 17th of November. By the 1st of December, the swelling disappeared, and he never enjoyed better health than since he began the Acid. As insuring him better general health than he has had for years, he still continues to take the Acid mixture.

THREE gentlemen I treated with the Mercurial pill and ointment. One of these, after a seeming cure, is in the worst stage of Syphilis. Three others I treated successfully, with Acid and Mercury conjoined.

TAKING a retrospect of the practice with the Acid, it appears successful in the highest degree. With the exception of four Cases now in the hospital, I have faithfully recited every Case that occurred since the 88th regiment landed in India. Several of the Cases may be thought slight, but every one of them was ascertained to be venereal. The medium quantity of Acid given internally in the day, was an ounce. The quantity in some Cases was increased; in two Cases to what may appear enormous, to sixteen drachms by measure, in the day. The bath was of a strength sufficient to fret the patient's skin.

I HAVE



I HAVE already drawn out my paper to too great a length to detail the effects that I observed the large quantities exhibited had on the pulse, on the appearance of the blood, urine, and different secretions: these I may send at a future period. In a majority of Cases it affected the gums, and in most Cases seemed to have a singular effect in increasing irritability and sensibility. A very acute observer here first led my attention to this. The Acid which I used was the nearly colourless Nitric Acid, distilled from a mixture of Alum and Nitre. It is I think more pleasant to the taste than what I have seen in Europe. The specific gravity of it was 1,144. I have very seldom mixed any thing with it, but diluted it with water.

THE Cases which I sent you in 1798, I have lately examined, and they at this date remain cures. The gentlemen of the Medical Board here have examined the Cases now sent, and have observed the progress of the cures. These Cases have likewise been occasionally visited by some of the most eminent medical men here, and the Acid has been exhibited either in my own presence, or in that of Mr. Bruce, Assistant Surgeon.

SHOULD any thing in future occur that affects the permanency of the cures now related, you may be assured that I will faithfully apprise you of it. The advantages of a Regimental Surgeon are in one respect peculiar: after they are dismissed from the hospital, the cases he treated are still under his eye.

JAMES MAC GRIGOR.



*LETTER from Mr. MAC GRIGOR.*

SIR,

*Bombay, 21<sup>st</sup> December, 1799.*

AN accident prevented the sailing of the *Asia* at the time intended; so that, most likely, the present will accompany my letter of the 8th instant.

I HAVE great pleasure in informing you, that since I last wrote, Powers and Langley have been added to the cures, and in a very short time I expect to add Wood; indeed, I conceive him to be now cured, though I think it will be as well to continue the Acid for ten days more.

WE had the greatest satisfaction, by the arrival of ships from Europe, to receive your 2d vol. of Reports. I observe that the Acid appears to be given by me in larger quantity than by any of your correspondents in Europe. I have here made the experiment on myself, and have taken 314 by measure of it in the day, but farther in my own case, I could not go. In several of my cases, you will observe, that I have succeeded only by giving it in large quantity, and in some by putting the patient on repeated courses of the Acid.

MY Reports too differ from those of most of your correspondents, in the effects which with me the Acid has had on the salivary glands. In a few cases in Jersey, in 1798, I found that by pushing the Acid to a great length, I had excited a great flow of saliva; but learning that, with many others who had better means of judging, no such effect appeared from the Acid, I doubted the accuracy of my observations. Since my arrival in this country, I have particularly directed my attention to the effects of the Acid on the gums, and am now convinced, that it affects them much in the same way that Mercury does.



does. Besides 18 venereal Cases, I have affected the gums in about 40 dysenteric and hepatic Cases; and, in some Cases, by using only the bath.

IN the 40 venereal Cases which at different times I have detailed to you, and which have included not a small variety of the forms of this disease, I have only failed in five Cases, and I think it is evident, that in some of these, the failure does not attach to the medicine.

IN England, it may be a matter of astonishment to some, that we should attempt the cure of dysentery by a corrosive Acid; but I believe I am only speaking the opinion of most of the faculty here, when I say, that in this country dysentery and hepatitis are nearly allied; and that in the cure of both, experience teaches us to rely on nothing but Mercury or analogous remedies.

IF you have the smallest wish for it, I shall, on a future occasion, give you the result of my trials of the Nitric Acid in hepatitis and dysentery, though my experience of its use in these diseases is very contracted, compared to that of many practitioners on this side of India. If they can find leisure, I am happy to inform you, that it is the intention of some to transmit to you testimonies which are favourable in the highest degree, and are upon a most extensive scale. I am really sorry to hear of gentlemen deciding pro or con from the result of half a dozen of Cases.

I remain, Sir,

Your obedient, humble Servant,

JAMES MAC GRIGOR.

To Dr. BEDDOES.



*Royal Hospital, Plymouth, 1799.*

*LETTER from Mr. HAMMICK.*

DEAR SIR,

HAVING this day resigned my situation as an assistant-surgeon at this hospital, I think it right for me to inform you of my present opinion of the antisyphilitic powers of the Nitrous Acid, and oxygenated Muriate of Potash, permit me then to state, that, since I first exhibited the Nitrous Acid in April 1797, that upwards of twelve hundred venereal cases, in almost every stage and every form in which that virulent disease makes its appearance, have been under my own charge and care: to the greater number of them, Mercury, in some form or other, had been previously administered to them ineffectually, on board their respective ships; a great number, however, had never employed any means for eradicating the distemper: almost every one of these twelve hundred, have taken either the Nitrous Acid, or oxygenated Muriate of Potash, and by these remedies alone have the greater number been effectually and radically cured; but it will be fair and just for me to admit, that, in some of them, these medicines shewed no antisyphilitic power whatever.

ON seriously reflecting and reviewing the observations and remarks which I have from time to time done myself the honour of transmitting to you, and which you have been pleased to lay before the public, I see no great reason to alter any part of them; but am by this long experience more fully convinced of the antisyphilitic powers  
of



of these medicines, when properly dosed and judiciously administered: neither have I the smallest reason to suppose, but that the numerous cures which I have accomplished by these remedies *alone*, have been permanent, as I have never received back any one patient whom I discharged as cured by these agents; notwithstanding the ingenious Dr. Trotter, physician to the fleet, in the second volume of his *Medicina Nautica*, page 140, mentions, that two or three of my Cases had relapsed, and had been reported to him in the fleet; but, after the most diligent enquiry, and strictest scrutiny, I am disposed strongly to believe, that, on this point, the Doctor was misinformed, as the two surgeons to whom he referred me for information on the subject, declared they knew of no such event.

As you wished me to express my opinion on the comparative antivenereal powers of the Nitrous Acid, and oxygenated Muriate of Potash, I am inclined to prefer the Nitrous Acid, as possessing, in my mind, greater powers than the Muriate; and this opinion I have endeavoured to form without any partiality whatever for the Acid. Cases may occur, where the Muriate of Potash may be more readily given than the Acid, which, in some few instances, on account of the bulky form in which it is commonly taken, is inadmissible; but, on the other hand, I am disposed to believe, that the hectic symptoms, with a tendency to cough, and a pain of the breast, are aggravated by the oxygenated Muriate of Potash, which is readily overdosed, and when overdosed excites thirst, coats the tongue, and renders the body hot and feverish; and in several instances, when given in large doses, diarrhæa has been the consequence. Many patients, under treatment with the Muriate, complain of a severe pain in the region of the bladder, which I can account for in no other way than its being caused  
by



by the local action of the salts on its coats, which have passed off undecomposed, notwithstanding Acids have been taken immediately after each dose; and this is further confirmed by noticing, that a much larger proportion of the salts is found in the urine of those Cases, than in others where no such symptom supervenes. These medicines, notwithstanding the opposition they have excited, and the prejudice that has been raised against them, will, I doubt not, continue to hold a very important situation in the list of antivenereals. However, whatever may be the future event of them, I shall reflect with infinite and everlasting satisfaction, that, by their use, I have been the happy means of saving the lives of a few, and the constitutions of a great number of brave and valuable seamen, who otherwise must have perished under the old treatment of Mercury.

BEFORE closing this Letter, permit me to add my most grateful thanks for the trouble you have taken, and the interest you have shewn in this investigation\*.

I am,

Dear Sir,

Your most obliged Servant,

STEPHEN HAMMICK, Jun.

To Dr. BEDDOES.

\* In a letter, dated July 27, 1800, Mr. Hammick repeats the substance of the preceding. He says, "I firmly believe my friend the Doctor (Trotter) must have been misinformed on this subject, as the two naval surgeons, to whom he referred me, declared they knew nothing of the matter; and *even at this time, I have not been able to discover any of these reported relapses.*"



*Copy of a LETTER from Mr. GRIFFITH, Surgeon of  
His Majesty's Ship SUFFOLK, concerning his Experi-  
ence of the Nitric Acid in Scurvy and Syphilis, and  
obstinate Ulcers.*

SIR,

May 10th, 1799.

I BEG leave to acquaint you of the earliest observa-  
tions I have been able to make, respecting the effects of  
the Nitric Acid in several scorbutic Cases that occurred  
during our late cruise off Mangalore. Some of the pa-  
tients had already the tendons of the leg entirely rigid,  
accompanied with other bad symptoms usually attendant.  
I employed the Acid as you recommended, both internally  
and externally. In a few days, the good effects of this  
treatment appeared remarkably evident, more especially  
the contractions of the ham were speedily relieved; but  
during this convalescent state from the scorbutus, we re-  
ceived a plentiful supply of fresh meat and fruit; of course,  
I could no longer continue in giving medicine on trial,  
when a well known and more pleasant remedy was at  
hand: but however, I am convinced, from what I have  
seen, that the Nitric Acid, used in the manner you direct,  
is a most efficacious remedy for the scurvy.

I ALSO gave the Acid, with great success, in two ve-  
nereal complaints wherein Mercury had failed.

AND I was further induced to make trial of it in a  
few Cases of old, obstinate, foul ulcers; and am very  
happy to say, the ulcers are now completely healed.

I LAMENT much I have not an opportunity of ex-  
plaining to you in person, as I then could be more minute  
and satisfactory in describing the particular symptoms,  
treatment, &c. &c. as also receive more information from

H

you.



you. Indeed, I would have transmitted you the Cases in which I succeeded, but I wish a few more opportunities of trying the effects of the Acid, that I may be still more confident; in the mean time, allow me here earnestly to request you will continue to recommend the Nitric Acid in Cases of scurvy and obstinate ulcers. I hope all those who make trial of it, and wish to benefit society, may freely communicate to you the result of their experiments.

I remain, with the greatest respect,

Sir,

Your most obedient humble Servant,

(Signed) NATH. GRIFFITH.

*Helenus Scott, Esquire,  
Bombay.*



*Copy of a REPORT from Mr. MACLEOD, Surgeon of the  
LA FORTE, on the Use of the Nitric Acid in Scurvy.*

PETER DOW, seaman on board His Majesty's ship Trident, cruising off Mangalore, came into the Sick List the 24th of March, 1799, with the following symptoms:

A purpureal eruption on the inferior extremities of both legs; greatly swelled; pitting on pressure; the tendons of the flexor muscles of the ham rigid; the anterior part of the right knee entirely black; respiration impeded; pulse a hundred; gums swelled; breath fœtid. Ordered the Nitric Acid in the manner and quantity ordered by Dr. Scott of Bombay.

25th. Nausea; griping symptoms as before—repeat, &c.—26th. No abatement of symptoms—27th. Rather worse—Says his teeth are on edge.—29th. Altogether incapable of motion.—30th. Symptoms as before.—31st. As yesterday—repeat, &c.

April 1st. The blotch on the anterior surface of the knee appears yellow—repeat, &c.—2d. Symptoms as before.—3d. Pulse a hundred—repeat.—4th. The blotch on the knee clearer.—5th. Thinks himself easier—repeat.—6th. Breathes more freely—repeat.—7th. As yesterday.—8th. Can extend his legs a little.—9th. Continues mending.—10th. Pulse eighty; other symptoms as before.—11th. The large blotch on the knee disappears.—12th. Swelling of the legs considerably diminished.—13th. Can walk a little with a stick.—14th. Pulse natural.—15th. Eruption disappearing fast.—16th. Complains of a sore throat.—17th. Says he spits more than usual.—18th. Mending; says he salivates as if taking Mercury.—19th. Still mending—Ptyalism considerable.—20th. Walks with great ease. Thus he continued taking the Nitric Acid till the 28th of April, when, free from all his complaints, he returned to his duty. During this time he took no



medicine but the Acid; no nourishment but the common ship's allowance (salt beef and pudding) on a long cruise. Sago he nauseated.

CHAFMAN RANTERY, sailor on board His Majesty's ship Trident, complained of a large tumour on the fore arm. The centre of the tumour entirely black, the edges yellow, the elbow joint stiff, livid spots on the inferior extremities, gums swelled, and bleeding on the smallest touch; breath offensive; with these symptoms he came into the Sick List. The 1st of February, began to take the Nitric Acid in the manner directed by Doctor Scott of Bombay; and after using thirty bottles, returned to his duty free from all his complaints. This man's habit had a peculiar tendency to scurvy; he was never six weeks at sea without a very severe attack.

DAVID DAY, sailor on board His Majesty's ship Trident, complained of a large tumour on the ulna of the right arm, extremely painful to the touch. The tendons of the flexor muscles of the ham of the right thigh extremely rigid; large blotches on both thighs; the legs very much swelled, and pitting on pressure; gums swelled, and spongy: dyspnoea considerable; pulse a hundred: he took the Nitric Acid as directed by Doctor Scott. The symptoms continued to aggravate for three weeks; the fourth, the disease seemed to be at a stand; the fifth, he began to mend, and the sixth, was so far recovered as to return to his duty.

THIRTEEN more had slighter symptoms, and recovered in a shorter time by pursuing the same method of practice. We had many more scorbutic patients, but our stock of Nitric Acid being exhausted, they could not take advantage of this valuable medicine

(Signed) NEIL MAC LEOD,  
Surgeon of His Majesty's Ship La Forte,  
formerly Surgeon's First Mate of His  
Majesty's Ship Trident.



*LETTER from Mr. GRIFFITH.*

His Majesty's Ship *Suffolk*,  
DEAR SIR, *Calicut Roads, Dec. 24th, 1799.*

I DELAYED transmitting the enclosed cases, expecting further opportunities of trying the effects of the Nitric Acid in Scurvy; but the frequency of our receiving fresh meat, fruit, and vegetables from the different places along the Malabar coast, has prevented my making any additional observations.

I remain, with great respect,

Dear Sir,

Your most obedient humble servant,

NATH. GRIFFITH.

*To Helenus Scott, Esquire,  
Bombay.*

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CASES of SCURVY treated by Nitric Acid.

*April 8th, 1799.*

WILLIAM GAGER, aged 34, an active healthy seamen, of a swarthy complexion; complained of incapability of continuing his duty, being unable to walk, together with great weariness and difficulty of breathing.

His face was bloated, gums black and spongy, numerous small livid spots appeared in several parts of his body, but more particularly in his legs, which were also greatly swelled, and pitted on being touched. The inside of the left knee and both ancles were of the same colour as

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usually



usually accompanies a severe bruise; the flexor tendons of his legs were much contracted; his pulse, belly, and appetite were natural.

I MIXED the Acid as you direct, a wine glass holding 2 ounces, was filled and added to one gallon of water, of which the patient took 6 half pints in the course of 24 hours, and did not complain of the medicine disagreeing; I also caused him to wash his knees and legs with the same mixture

9th. THERE was no material alteration.—Cont. Acid. Nitric. u. a.

10th. COMPLAINS that his appetite is impaired, which he attributes to the medicine; no alteration in his symptoms. Cont. Acid. Nitric. u. a.

11th. COMPLAINS still of wanting appetite, but finds his breathing better, and the contraction of his hams is wonderfully relieved. Cont. Acid. Nitric. u. a.

12th. APPETITE better; breathes freely, and the contractions getting more relaxed; other symptoms as before. Cont. Acid. Nitric. u. a.

13th. HAS quite recovered his appetite and spirits, drinks the medicine with eagerness, and is able to walk, though with some difficulty; the spots are changing colour to a deep red, and the swellings of the knee and ancles are considerably diminished. Repeat medicine, u. a.

14th. GETTING better in every respect. Repeat medicine, u. a.

15th. CONTINUES recovering. Repeat medicine, u. a.

16th. PATIENT says he can walk with ease; wishes to return to his duty, and continue using the medicine, which was readily complied with, as I thought exercise and cheerfulness would hasten the cure; he had still some degree of swelling in his legs, and his left knee continued to have a bruised appearance, although the small spots about his body were become of a brighter colour; he continued using the acid with benefit till the 24th, when  
the



the scorbutics received a plentiful supply of fruit and vegetables, in consequence of Admiral Rainier's joining the *Suffolk*, who immediately distributed liberally part of his stock to the sick, which was continued to them until our arrival at Cananore, where we received another supply of fruit, vegetables, &c. &c. of course the disease was soon eradicated; but it is sufficiently evident, from the foregoing and following cases, that I have every reason to conceive the Nitric Acid, used as you recommend, is a most powerful remedy in scurvy.

PHILIP NEWBERRY, aged 36, of a swarthy complexion, who had long remained in the sick list, labouring under proclivencia ani, was attacked with scurvy the 10th of April.

HE complained of great weariness, dejection, and difficult respiration, his countenance was bloated, and of an uncommon dark hue, gums black and spongy, a purple eruption all over his body, his right knee swelled, and the flexor tendons of the same leg completely rigid, accompanied with a bruised appearance, extending along the whole of the inside of both legs and thighs. Pulse 96. Appetite impaired; belly natural.

HE was treated exactly in the same way as the foregoing patient, but within 6 hours after he had taken the medicine, was seized with severe griping pains, which however lasted only a short time; and he continued its use for 4 days without any return of griping, or alteration in the symptoms.

15th. THE patient said his spirits were revived, and his appetite improved. Cont. Acid. Nitric. u. a.

16th. CONTINUES in good spirits, the bruised appearance along his legs and thighs is of a yellower colour.—Cont. Acid. Nitric. u. a.

17th. RESPIRES more freely; his countenance is brighter, and not so bloated as before.—Repeat med. u. a.

H 4

18th. As



18th. As yesterday.—Repeat medicine, u. a.

19th. CONTINUES recovering his appetite and spirits, but the contraction of his right ham remains immovable.—Repeat medicine, u. a.

20th. HAS no difficulty in breathing, and the eruption is disappearing.—Repeat medicine, u. a.

21st. HIS pulse is quite natural, and is recovering in every respect excepting the contraction of his ham.—Repeat medicine, u. a.

22d. COMPLAINS of a slight palpitation of the heart.—Repeat medicine, u. a.

23d. THE palpitation continues, and his face is somewhat flushed; the contraction as before, but the bruised appearance and eruption have nearly disappeared.—Repeat medicine, u. a.

24th. THE Acid was discontinued, Admiral Rainier having sent him part of his stock, as mentioned before, of which the patient eat plentifully. The palpitation left him the 27th, but the contraction remained till the 3d of May following.

April 12th. JOHN ANDERSON, aged 46, an active healthy man of a swarthy complexion, was attacked with scurvy; the symptoms were, contractions of both hams; on the calf of his right leg there was a large livid spot, confined entirely to the lower part of the *Gastrocnemius muscle*, which seems to be particularly affected, as it felt uncommonly hard, hot, dry, and somewhat swelled. The purple eruption, so usual in scurvy, did not appear either in his right leg or any other part of his body; his gums were black and spongy, respired freely, was cheerful, and had a good appetite. Pulse and belly natural.

THE Acid was employed as in the foregoing cases, and with equal success; the patient found no inconvenience whatever in taking it: on the contrary wished for more, saying, at each draught, it was to him as pleasant as grog.

The



The medicine agreeing so well, I allowed him the second day to drink 8 half pints, which also agreed—this quantity was taken daily afterwards.

ON the sixth day the contractions were nearly gone, and the spot on the calf of his leg had changed colour to a deep red in the middle, and yellow about the edges—the heat and swelling also diminished.—Cont. Acid. Nitric. u. a.

THE 10th day the spot had gradually become of a more natural colour, and the patient walked with ease; he returned to his duty, but continued using the Acid till the 24th, when the scorbutics received the supply of fruit, &c. &c.

April 13th. VALENTINE CLARK, aged 40, an active healthy man, of a dark complexion and spare habit, had nearly the same symptoms of scurvy as John Anderson, excepting that there was no particular large livid spot, but was covered all over with a purple eruption.

THIS patient took four pints of the Acid daily—drank it with eagerness, and used the same expression as John Anderson.

AFTER using the Acid four days, the contractions were relieved. On the 8th day he returned to his duty, and continued its use until the 24th—a little stiffness remained, and his gums were spongy, but the eruption had entirely disappeared.

April 13th. THOMAS GREENWOOD, aged 32, a clean healthy man, of a dark complexion, serving on board as a marine private, had, previous to his having scorbutic symptoms, stood sentry at the ward-room door, consequently was obliged daily to be very clean.

HIS gums were black and spongy, almost covering his teeth, the flexor tendons of both legs were completely rigid, accompanied with some degree of swelling, and a  
purple



purple eruption ; in every other respect he was in good health.—Acid. Nitric. proes.

THE medicine agreed with him ; and on the 3d day he was able to stand upright ; the 5th day, walked with little difficulty ; and on the 9th day, returned to his duty as sentinel, complaining only of a little stiffness in his knees ; the swelling and eruption had disappeared : gums remained nearly the same as at first—he continued using the Acid with benefit, till the scorbutics received the supply.

THE foregoing 5 cases are selected out of 29 which occurred during our cruise off Mangalore last April ; the other 24 scorbutics were only slightly affected, 20 of whom used the Acid as you direct, and with benefit ; but it disagreed with 4 men, and I was obliged to discontinue its use with them, as it occasioned severe gripes and pains in the stomach, although sugar was added.

MR. DEANE on *Dysentery*.

DEAR SIR, *Bombay, January 15th, 1800.*

THE very favourable mention you made to me of the antisyphilitic powers of the Nitric Acid, determined me to make a fair trial of its efficacy in his majesty's 86th regiment, which at that time consisted of 1000 men. I was the more inclined to satisfy myself on this point, as during three years I passed at the Cape of Good Hope, and on my passage from thence to India, I thought I observed mercury did not so certainly or so quickly cure the venereal disease, as I had found it to do in Europe. My experience however on this head I shall communicate at some future time, and shall for the present only observe, that



that in the many trials I have made of the Nitric Acid in the disease, I have great reason to be satisfied with it, although I have not in every instance been successful.— The purport of this letter is to inform you with what success I have employed it in a dysentery, which has of late been very prevalent in the regiment, and which disease in this country has hitherto, I believe, been successfully treated by mercury only. I was induced to make this trial, from finding that although the disease very generally gave way to mercury, yet my hospital was constantly crowded with men, labouring under no other complaint than tedious salivation, an effect I was most commonly obliged to produce, before I could obtain any abatement of the dysenteric symptoms. Another circumstance which influenced me still more, was the frequent recurrence of the disease as the ptyalism went off, by which I was obliged again to have recourse to mercury, till at last, between disease and remedy, such a degree of debility was induced, as much tended to, and I believe actually did, lay the foundation of a future relapse.

BUT, Sir, what at once determined me on making the trial, was the assurance you gave me, that it had, and might be employed in that disease with perfect safety.

How far I have been successful, the cases which I subjoin will enable you to judge; they have in general been transcribed indiscriminately from my ward book, with the exception of three or four cases, which were selected as being more particularly decisive: I have several others which I have not leisure to copy, but they are very similar, treated in the same way, and with the like termination, as those I send.

YOU will observe, that although I have been very generally successful with the Acid, yet I have not been constantly and uniformly so; for there are some cases where mercury has relieved, or effected a cure, when the Acid appeared



appeared inadequate, as well as others where the Acid has been used with success, after the failure of mercury: whether in the former cases the Acid might have succeeded, had it been longer persisted in, cannot now in those men be known; for while I had in my power a remedy of established reputation, I did not feel myself justified in persisting to use a doubtful one, in so formidable a complaint, more than three or four days, if then the disease appeared to gain ground; but in those cases, however, in which the Acid did not succeed when used on the first attack, mercury, although employed in almost incredible quantities, was commonly insufficient likewise; and those cases had but too frequently a fatal termination.

How far the dysentery of this country may differ from that disease in Europe I cannot take upon me to say, but it is the opinion of some eminent practitioners in India, who from long residence here had great opportunities of observing it, that it differs very materially, if it be not altogether a distinct disease; be that as it may, I shall content myself with observing, that it appeared clearly to me that the dysentery, which prevailed in the 86th regiment, was not in the smallest degree contagious, and was observed to be frequently either intimately or remotely connected with some hepatic affection, on which in many cases it seemed to depend.

On the whole, Sir, after taking a review of my practice for the last four months, in which I have employed it very generally, I am induced to consider that the introduction of the Nitric Acid into medicine as a substitute for mercury, will in many cases be found of the greatest utility; and although I do not believe it to be of sufficient efficacy to supersede the use of mercury altogether, it is at least a very powerful auxiliary: there appears to be a particular disposition in some men, to resist, or favour, the action of each; for I have observed in many instances that  
either



either may be successfully used, after the failure of the other; and there are cases also, where their joint power has effected what neither of them singly were able to do. What that disposition is, and on what it depends, I am totally at a loss to form even a probable conjecture; it is certainly a point of the utmost importance to have clearly ascertained.

To obviate the tedious tautology of enumerating the symptoms to each case, I shall give a general history of the disease in which I made trial of the Nitric Acid, as it appeared in His Majesty's 86th regiment.

It first shewed itself on board ship in the end of June 1799, during a passage from Madras to Bombay. The men were attacked with griping pain in the belly, a frequent, but commonly fruitless effort to go to stool, attended with great tenesmus; the evacuations small in quantity, slimy or frothy, and mixed with blood; it was now and then accompanied by sickness and vomiting, but these were by no means general attendants; the skin was sometimes hot and dry, the tongue rather foul, the pulse a little accelerated; in some cases there was pain in the groins, in others, a fixed pain over the pubis, and now and then it was accompanied with an intermittent fever, observing either the quotidian or tertian type. Symptoms of irritation came on as the disease advanced, and for the most part, if not stopped by mercury, terminated fatally in about 12, 15, or 20 days.

OR more commonly the pulse and general health were not for several days much affected, and the purging would continue, with the griping pains in the belly; and blood be passed for two, three, or even seven or eight weeks, without producing any very great degree of debility; the symptoms abating as mercury affected the mouth; and again recurring as the pyalism went off; till at last the disease went on to such lengths, that a great part of the villous coat of the large intestines was destroyed, and death



death ensued. It appeared also in all the gradations between these points, and not uncommonly was conjoined with hepatitis, sometimes preceding, at others succeeding that disease: but in whatever way it made its attack, whether it was slow or rapid in its progress, it was always a formidable disorder.

IN giving a short detail of the following Cases, I have not thought it necessary, in every instance, to mention the auxiliary remedies, which I have employed in *bad* cases to alleviate symptoms, such as blisters, glysters, and fomentation; my object was to draw a short comparison between Mercury and the Nitric Acid; for I believe, that by them only the disease was removed. The progress of the disorder was accurately noted down every day by either Mr. Williams, Mr. Bellers, or myself; these gentlemen can vouch for their authenticity, and most of the men who were the subjects of them are now in the 86th regiment living testimonies to the truth.

The Acid I made use of was the pale Nitric Acid, as prepared by you. I commonly began with ʒvj. in a quart of water, previously giving an emetic, and a dose of salts, when there was any sickness at the stomach; and salts alone, when there was none. This quantity I found could in general be borne very well; but if it appeared to nauseate, the addition of a few drops of ol. menth. pip. and sugar, with an occasional emetic, commonly did away that objection; and where the griping appeared to be increased by it, which was rarely the case, an ounce of salts given at those times generally enabled me to continue the Acid without inconvenience. Indeed, these symptoms I considered as more concomitants of the disease, than the effect of the medicine; and very rarely left it off on their account.

I have the honour to be,

Dear Sir,

Your obliged Servant,

To *Helenus Scott, Esq.*  
*Bombay.*

PHILIP WILLIAM DEANE,  
Surgeon 86th Regiment.



I. JOHN WATSON, aged 30, relapsed on the 28th of August, after being cured of a dysentery the week before; he was put on a course of mercury that day, but felt no relief till the 4th of September, when his mouth becoming sore, his complaints were relieved; but as the spitting went off, they returned with equal violence. On the 11th the mercury was left off, and he was ordered ʒvj. of Nitric Acid; this he continued daily till the 28th, when he was perfectly recovered, and returned to his duty on the 2d of October; he has never since been ill.

II. JAMES STEEVENSON, aged 28, while recovering from a course of mercury which he had gone through for a venereal complaint, was attacked with dysentery on the 20th of September. His symptoms then were violent; he was ordered to drink ʒvj. of Nitric Acid diluted with water in the course of 24 hours; he persisted in this plan till the 25th, when his purging had nearly stopped; but on the 27th it again came on. The Acid, however, was persisted in, and he returned to his duty perfectly recovered on the 5th of October.

III. ROBERT CROSS, aged 19, was seized with dysentery on board ship about the 17th or 18th of July; he was under the action of mercury from that time till the 14th of September, with very little relief, although his mouth was affected during almost the whole time; on the 12th he was ordered to leave off the mercury, and take ʒvj. of Nitric Acid daily; this he continued only till the 18th, when every symptom had gone off: But as an erysipelas took place in one of his legs, he did not return to duty till the 29th. He has never had any return of the complaint since.

IV. JOHN KITSON was attacked with dysentery on the 17th of September. He was ordered that day the Nitric Acid; the next he complained of the pain in the belly being more violent; a dose of salts was given him,



and he was desired to persist in the use of the Acid: 19th, his pain was considerably better, and he returned to duty on the 27th.

V. JAMES BERESFORD, aged 32, after being twice cured by mercury, applied to me, with symptoms of dysentery, on the 25th of August. He was immediately ordered the Nitric Acid; this he continued till the 8th of September, when every mark of the disease had disappeared, and he was sent to duty the 11th. He has never had any return of the disease since.

VI. JOSEPH GIDDING, aged 25, was attacked with dysentery on the 18th of August, and cured by calomel, so as to return to his duty on the 18th of September. On the 19th the symptoms again come on with great violence; he was instantly put on a course of the Nitric Acid. On the 22d he was much the same, but complained of a sense of swelling in the belly; the next day he had great sickness at the stomach, but otherwise much the same; an emetic was given, and he was desired to continue to drink the Acid after the operation.—24th, he was considerably better, and continued mending till the 30th, when every symptom of the disease had left him, and he returned to Duty on the 5th of October.

VII. WILLIAM WHITTLE, aged 29, was attacked with dysentery on the 29th of August. He was then given an ounce of salts, and ordered the Nitric Acid; he continued to use ʒvj. daily till the 8th of September, when every symptom of the disease had gone off; and he returned to duty on the 10th.

VIII. JOHN SHEPPARD, aged 18, was attacked with dysentery on the 21st of August. He was ordered eight grains of Calomel, which he continued daily till the 2d of September; when his mouth became sore, the symptoms were relieved; but again increased in violence as the mercurial effect on the mouth went off. On the 15th of September



September the disease seemed to be stationary; the mercury was discontinued; and he was ordered ʒvj. of Nitric Acid. From continuing it daily till the 20th, he was free from complaint, and returned to duty the 23d. He has had no relapse since.

IX. MICHAEL SMIDLEY was attacked with dysentery on the 1st of August. He took mercury till the 19th of September, without its affording him permanent relief; at that time, the disease appearing to gain ground, I discontinued the mercury, and ordered him ʒvj. of Nitric Acid daily; by the 22d his pain was not so distressing; his stools put on a better appearance, and they were not so frequent.—23d his purging was rather increased, and the griping pains in the belly were more severe.—24th he was much better, and he continued mending till the 30th, when every complaint had gone off; and he returned to duty on the 6th of October.

X. JOHN HOLBRAKE, aged 20, was admitted into the hospital, with symptoms of dysentery, on the 22d of October. He took the Nitric Acid for a few days with evident good effect; but at that time, being out of it, he was obliged to discontinue it, and became worse. On the 5th of September he was ordered 8 grains of calomel; this he took daily till the 9th, when the symptoms, not being at all relieved, and the mouth perfectly free from the mercurial effect, with the tongue extraordinarily dry and clean, the mercury was increased to 16 grains of calomel, and ʒvj. of strong mercurial ointment rubbed on the extremities in the 24 hours; this was persisted in till the 12th without the smallest effect.

The mercury was then discontinued, and recourse again had to the Nitric Acid. The dysenteric symptoms were almost instantly relieved; and he continued mending till the 21st. His tongue, however, still remained perfectly dry and clear. At this time he had a perpetual nausea;



the stomach ejected every thing that was taken into it, and the purging and griping increased; he persisted, however, to use the Acid, both by the mouth, from which it was almost instantly ejected, and had it applied to the skin by the Nitric Bath, till the 26th, when calomel and mercurial frictions were again tried, but without being able to obtain the least moisture on the mouth; the symptoms went on increasing till the evening of the 28th, when he expired. On inspecting the body we found the liver perfectly sound and natural; the gall-bladder contained about two ounces of bile of a very good colour and consistence; the ducts were pervious; the stomach was free from disease; but some slight inflammation was observable about the pylorus; the duodenum was very much dilated, and had evident marks of inflammation on its internal surface; the jejunum and ilium were inflamed in several places, but no appearance of ulceration. The whole villous coat of the colon was diseased; in some places wholly destroyed for several inches; and in one part, about five inches from the cæcum, was an ulcer opening into the cavity of the abdomen, large enough to admit the end of a finger. The disease appears to have gone to greater lengths the nearer it approached the rectum, close to which, for the extent of many inches, marks of gangrene were evident. The mesenteric glands were universally very much enlarged.

XI. SAMUEL CRABTREE, aged 36, was attacked with dysentery on the 27th of July. He was immediately put on a course of mercury, from which he felt but little relief till the mouth was considerably affected, and remained better only while the ptyalism continued. On the 17th of September the disease appeared to be stationary, and was accompanied with pain in the right hypochondrium and shoulder, with some slight cough. The mercury was now discontinued, and he was ordered ʒvj. of Nitric Acid daily; he persisted in this plan only till the 30th, when every symptom



symptom of disease had left him, and he was enabled to join his company on the 5th of October. He has continued well ever since.

XII. WILLIAM ELLIS, aged 32, was attacked with dysentery on the 28th of August. He took 8 grains of calomel daily from that time till the 10th of September, when, as his symptoms did not abate, I discontinued its use, and ordered him ʒvj. of the Nitric Acid; he persisted to drink that quantity diluted in water every day till the 22d, when every symptom of the disease left him: And he has had no return of the complaint since.

XIII. JAMES KNIGHT, aged 25, was admitted into the hospital, with symptoms of dysentery, on the 23d of September. He had taken an ounce of salts the day before, and was then ordered ʒvj. of Nitric Acid; this quantity was taken daily till the 29th, when every mark of the disease was gone, and he returned to duty on the 1st of October.

XIV. JOHN DRACOT, aged 25, was seized with dysentery on the 15th of September. He had an ounce of salts given him, and was put on a course of the Nitric Acid. The next day he was considerably better, and, after persisting in its use until the 21st, every symptom had disappeared, and he was discharged to duty the 25th.

XV. JAMES PASTON, aged 35, was attacked with dysentery on the 28th of September, accompanied with great pain in the head and limbs; skin very hot and dry. After taking an ounce of salts, he was put on a course of the Nitric Acid. He continued mending daily till the 8th of October, when he was free from complaint of any kind, and joined his company on the 11th.

XVI. WILLIAM TUDOR, aged 28, was attacked with dysentery 22d of August. He was given a dose of salts, and then desired to drink ʒvj. of Nitric Acid in the 24 hours; from continuing this till the 1st of September,



every symptom had gone off; and he returned to his duty on the 3d.

XVII. WILLIAM UPTON, aged 30, was admitted into the hospital with dysentery on the 6th of September. He was ordered 8 grains of calomel, which was repeated daily till the 10th, when his complaints not appearing to give way, I discontinued it, and put him on a course of Nitric Acid; he drank 3vj. daily till the 28th, when he was perfectly free from disease; and returned to duty on the 30th.

XVIII. JAMES LEE was admitted into the hospital with dysentery on the 12th of September; after emptying the bowels with salts, he was put on a course of the Nitric Acid, he continued it till the 18th, when he was perfectly recovered.

XIX. ABEDNEGO SMITH, aged 30, applied to me on the 12th of September with dysentery; he took an ounce of salts that day, and then began the Nitric Acid; he persisted in its use till the 18th, when he had no remains of the disease, and returned to duty the 21st.

XX. JOHN McLEAN, aged 26, was attacked with dysentery on the 13th of September; treated as the last patient, and was perfectly recovered on the 22d of September.

XXI. THOMAS BARTLET, aged 36, was attacked with dysentery on the 30th of July; he took calomel from that time till the 11th of September without much benefit, although his mouth was more or less affected nearly the whole time. I then gave over the use of mercury, and put him on a course of the Nitric Acid; he persisted in its use till the 22d, when he was free from his complaints, and enabled to return to duty on the 25th.

XXII. WILLIAM HUDSON, aged 30, was admitted into the hospital with dysentery on the 26th of August; he had been taking various medicines, amongst which was calomel,



calomel, till the 15th of September, when the disease appearing to be at a stand, I put him on a course of Nitric Acid, and by persisting in it till the 22d, he was recovered of his disease, and enabled to join his company on the 27th.

XXIII. JOHN DRAGEN, aged 20, was attacked with dysentery on the 28th of July; he was ordered eight grains of calomel, which he continued daily until his mouth was made sore, when the symptom abated, but again recurred as the mercurial effect on the mouth went off; mercury was again employed, and the action kept up till the 9th of September with scarce any advantage. The Nitric Acid was then tried, and continued till the 22d, with no better success. Sixteen grains of calomel were now given by the mouth, and 3vj. of strong mercurial ointment rubbed in every day till the 27th, when the mouth was very sore and ulcerated, but the flow of saliva inconsiderable; the symptoms however were not at all relieved. On the 30th, pulse began to intermit, and the prostration of strength became excessive; the griping was not so violent, but the purging not in the least diminished; the disease went on increasing till the 4th of October, when he expired. On examining the body, we observed the whole intestine to be very considerably distended with wind, except in three portions of the jejunum and ilium, two of which were caused by intussusception, the third simple contraction without inflammation, the upper intussusception was about the middle of the jejunum where the superior part was driven within the inferior full three inches; the lower about the middle of the ilium was not of so great extent. Inflammation was to be seen on many parts of the small intestines; the large intestines were diseased throughout, but more particularly the upper part of the colon, where many large ulcers were discovered on the internal surface,



some of them laying bare the peritonæal coat for three inches in circumference; the mesenteric glands were considerably enlarged. The liver appeared sound; the gall-bladder contained about 3vj. of bile of good colour and consistence; the ducts were pervious; the blood vessels of the mesentery were much more distended than ever I saw them; and in many places blood was effused between the lamina of the peritonæum which form it.

XXIV. JOHN HARTLEY, aged 32, was attacked with dysentery on the 14th of September, he was then given a dose of salts, and ordered 3vj. of the Nitric Acid; on the 17th he complained of more pain, the stools were more frequent, frothy, and bloody; he was ordered however to persist with the Acid: 19th he was considerably better, and continued to mend every day till the 22d, when he was free from disease, and joined his company on the 25th.

XXV. JOHN HOLRIGHT, aged 50, was admitted into the hospital on the 5th of August, at that time the dysenteric symptoms were very violent; he was ordered eight grains of calomel three times a day; this he took five days without obtaining any relief; on the 11th his mouth became sore, and his symptoms were alleviated; the quantity of mercury was then diminished, and he continued to mend for several days, but as the ptyalism went off the symptoms became more violent. The mercury was again increased, and with the same success, relieving him only while his mouth was affected, during which time he took Dover's powders and cardiacs. On the 17th of September, not appearing to gain any thing by the treatment he was under, I ordered him to leave off the mercury and every medicine, and to take 3vj. of the Nitric Acid in the twenty-four hours; this plan was persisted in till the 26th, when all his symptoms were gone off, but being very much reduced, I did not discharge



charge him from the hospital for several days ; on the 7th of October he was again seized with some slight pain in the belly, with frequent evacuations, but these complaints readily gave way to the Acid, and he was discharged perfectly cured on the 20th of October.

XXVI. M. KARNAVON, aged 25, was admitted into the hospital with dysentery on the 15th of October ; he took an ounce of salts, and was put on a course of Nitric Acid. On the 19th all his symptoms were relieved, but on the 20th they again recurred with increased violence, he however continued to use the Acid till the 23d, when the disease appearing to gain ground, it was left off, and he began a course of mercury ; as soon as the mouth became sore the symptoms abated, but again came on as the ptyalism subsided ; mercury however was employed occasionally till the disease was cured, but he was so reduced as to oblige him to continue in the hospital till the 10th of December.

XXVII. WILLIAM ITATY, aged 24, was admitted with dysentery on the 9th of October ; after taking a dose of salts he was put on a course of Nitric Acid ; on the 14th, it had evidently affected his gums, the flow of saliva was considerably increased, and the symptoms were very much relieved ; by persisting in its use till the 18th, every mark of the disease disappeared, and he was sent to his company on the 20th.

XXVIII. THOMAS THOMPSON, aged 30, applied to me on the 10th of October ; he had been attacked with dysentery the day before, and had taken an ounce of salts, he was immediately ordered ʒvj. of Nitric Acid, and by continuing it daily till the 20th, was perfectly recovered, and returned to his duty on the 23d.

XXIX. M. CHEN, aged 28, came into the hospital with dysentery. On the 29th of November he took an



ounce of salts, and was ordered the Nitric Acid. He took this medicine till the 6th of December, when every symptom had gone off; and he joined his company on the 8th.

XXX. JOHN GILMORE, aged 21, was attacked with dysentery on the 14th of November. He had been ill three days previously, and he had taken a dose of salts; he was immediately put on a course of Nitric Acid, and appeared to be mending till the 18th, when his griping being more severe, some palliative remedies were given, and the Acid continued to the 25th; at this time the disease not giving way, it was laid aside, and recourse had to mercury. Sixteen grains of calomel were given, and four drachms of strong mercurial ointment rubbed on the extremities every day, until the 1st of December, when his symptoms were nearly gone, and his mouth very much affected; the next day, however, his mouth was much easier, and the dysentery returned; eight grains of calomel were now given, and two drachms of mercurial ointment rubbed in; this was continued to the 8th, when the mercurial effect on the mouth going off, and the disease increasing, twelve grains of calomel were ordered, with six drachms of ointment. Under this treatment the disease evidently gained ground, and on the 11th the Nitric Acid was again employed, and the mercurial course at the same time persevered in. On the 16th he was much worse, the stomach rejecting the medicine; the Acid was laid aside, but the mercury continued to the 18th; at this time there was not the least soreness or moisture in the mouth, and the prostration of strength was excessive. He died on the 19th. On inspecting the body, the surface of the liver was found covered with a number of small pustules containing pus; and on cutting into the substance of the right lobe, four small abscesses were found perfectly distinct from each other; the bile appeared natural, and of the



the usual quantity ; the small intestines were free from disease, and very little was observed in the large ones, except in that part of the colon which lay near the spleen, to which a portion of omentum was adhering, and on using the slightest force to separate it, the gut was torn open, and exposed a larger ulcer, which had destroyed nearly half the diameter of the intestine, the contents of which must have escaped into the cavity of the abdomen, but for the adhering part of the omentum. It was worthy of remark, that this man, although repeatedly asked, always declared he felt no pain in either side or shoulder.

XXXI. JOHN KELLY, aged 35, was attacked with dysentery on the 30th of October. After an ounce of salts, he took the Nitric Acid till the 6th of November, when he was enabled to return to his duty.

XXXII. MICHAEL ROAKS, aged 36, was attacked with dysentery on the 28th of November. He was treated as the last patient, and discharged for duty on the 11th of December.

XXXIII. THOMAS BALL, aged 40, was attacked with dysentery on the 7th of October, and, after a dose of salts, was that day put on a course of Nitric Acid ; the symptoms gradually abated till the 11th, when he had some little increase of griping ; another dose of salts was given, and the Acid continued till the 17th, when the disease was completely carried off, and he returned to his duty on the 20th. His mouth was slightly affected.

XXXIV. THOMAS COOMBS, aged 25, was admitted into the hospital with dysentery on the 30th of October. He was treated as the last patient, and discharged, cured, on the 6th of November.

XXXV. SERJEANT LEE, aged 40, was admitted into the hospital with dysentery on the 28th of November. He was, like the former patients, put on the Nitric Acid, and  
returned



returned to duty, perfectly recovered, on the 9th of December.

XXXVI. JAMES JACKSON, aged 19, was attacked with dysentery on the 18th of September. He was treated as the last man, and sent to his company, cured, on the 28th.

XXXVII. JOHN BATTY was admitted with dysentery on the 15th of October. After taking an ounce of salts, he was that day put on a course of Nitric Acid. On the 24th, the symptoms were considerable relieved, and his mouth somewhat affected; on the 30th, the griping pains were more violent, for which another dose of salts was administered, and the Acid continued. November 3d, he was much better, and on the 12th said he was nearly well; but the next day the griping returned, which was again carried off by a third dose of salts; and by persisting in the Acid till the 8th of November he was discharged the hospital perfectly cured.

XXXVIII. WILLIAM HOOKWAY was admitted with dysentery on the 14th of November; he had been ill three days previous, in which time he had taken an ounce of salts; he was then put on a course of Nitric Acid; on the 16th he was nearly the same; on the 17th his griping was more severe, for which another dose of salts were given, and the Acid persisted in; 18th, his pains were less, but the purging and tenesmus worse; the medicine was this day discontinued, and he was put on a course of mercury, sixteen grains of calomel were given by the mouth, and 3ss. of strong mercurial ointment rubbed on the extremities in the course of twenty-four hours. This was continued till the 21st, at which time he was considerably relieved; the ointment was now omitted, but the calomel continued till the 24th, when nearly all the symptoms being gone, the mercury was laid aside altogether, and he took small dozes of Dover powders till the 1st of December, when



when he was discharged the hospital cured.—On the 11th he was again admitted with a return of all his complaints. As I was not satisfied with my trial of the Acid in the former attack, I was resolved to employ it again, and not give it up till I should be fully convinced of its inefficacy in this man's case; he was accordingly a second time put on the Nitric Acid course; on the 13th he was much better, and he continued mending till the 27th, when every mark of the disease had gone off, and he was discharged, perfectly cured, the 29th. During the course of the last cure, he was occasionally very much griped, this, however, was always removed by salts, and did not oblige me to discontinue the Acid.

XL. WILLIAM BURKE, aged 25, was admitted into the hospital with dysentery on the 8th of December. He had taken a dose of salts the day before, and was then put on a course of Nitric Acid; he continued it till the 13th with scarce any advantage; at this time he complained of great pain in his loins and testicles; the Acid was now laid aside, and sixteen grains of calomel given by the mouth, and ʒss. of strong mercurial ointment rubbed in every day; on the 19th the symptoms were not in the least abated, and his mouth remaining very dry, a scruple of calomel, mixed with a little conserve, was rubbed on the gums, to induce, if possible, a ptyalism, an effect which seldom failed to relieve the dysenteric symptoms; the calomel pills and the ointment were also continued; this plan was persisted in till the 25th without the smallest effect. The calomel taken into the stomach was now augmented to 24 grains, and the frictions to ʒvj. in the 24 hours; he now complained of a fixed pain in the back, which was relieved by the application of a blister; on the 26th all the symptoms were more violent, his mouth was ulcerated, but perfectly dry; delirium came on in the night; on the 27th he was almost insensible, and died in the evening.



ing. On inspecting the body, we were surprised, on dividing the parietes of the abdomen, to find a large quantity of air issue with great force and noise; on laying bare the viscera, the coats of the gall-bladder were found emphysematous, and air was effused in Glisson's capsule, and the omentum. The liver appeared of the usual size, but of a dark lead colour; and on cutting into the substance of the right lobe, an abscess was found, containing about three ounces of thick pus. The left lobe was sound; the bile appeared natural, and of the usual quantity; very high marks of inflammation were observed on many parts of the small intestines, and about the end of the jejunum was a very considerable intussusception. The large intestines were highly diseased, and on the under side, in the centre of the great arch of the colon, was an ulcer, which had totally destroyed all the coats of the gut for near three inches, by which we were enabled to account for the air found in the abdomen, and the emphysema observed in the gall-bladder. The lower parts of the colon, and whole of the rectum, were less diseased than in any dysenteric patient I have hitherto examined. This man, also, never complained of any pain in the side or shoulder, though repeatedly asked, to the day of his death.

XLI. JAMES SMITH, aged 28, was attacked with dysentery on the 5th of December, he was that day ordered a dose of salts, and put on a course of Nitric Acid. On the 6th he was much better; the symptoms gradually abated till the 8th, when they disappeared altogether, and he was discharged to duty on the 15th.

XLII. RICHARD THOMAS, aged 22, was attacked like the former patient on the 4th of December, treated in the same way, and discharged for duty on the 8th.

XLIII. SERJEANT JONES, aged 50, was seized with dysentery on the 1st of December, treated as the last men, and was discharged, cured, on the 17th of December.

ON



ON examining my ward books it appears, that in about three months time I have employed the Nitric Acid in 86 cases of dysentery, of which the following is the result:

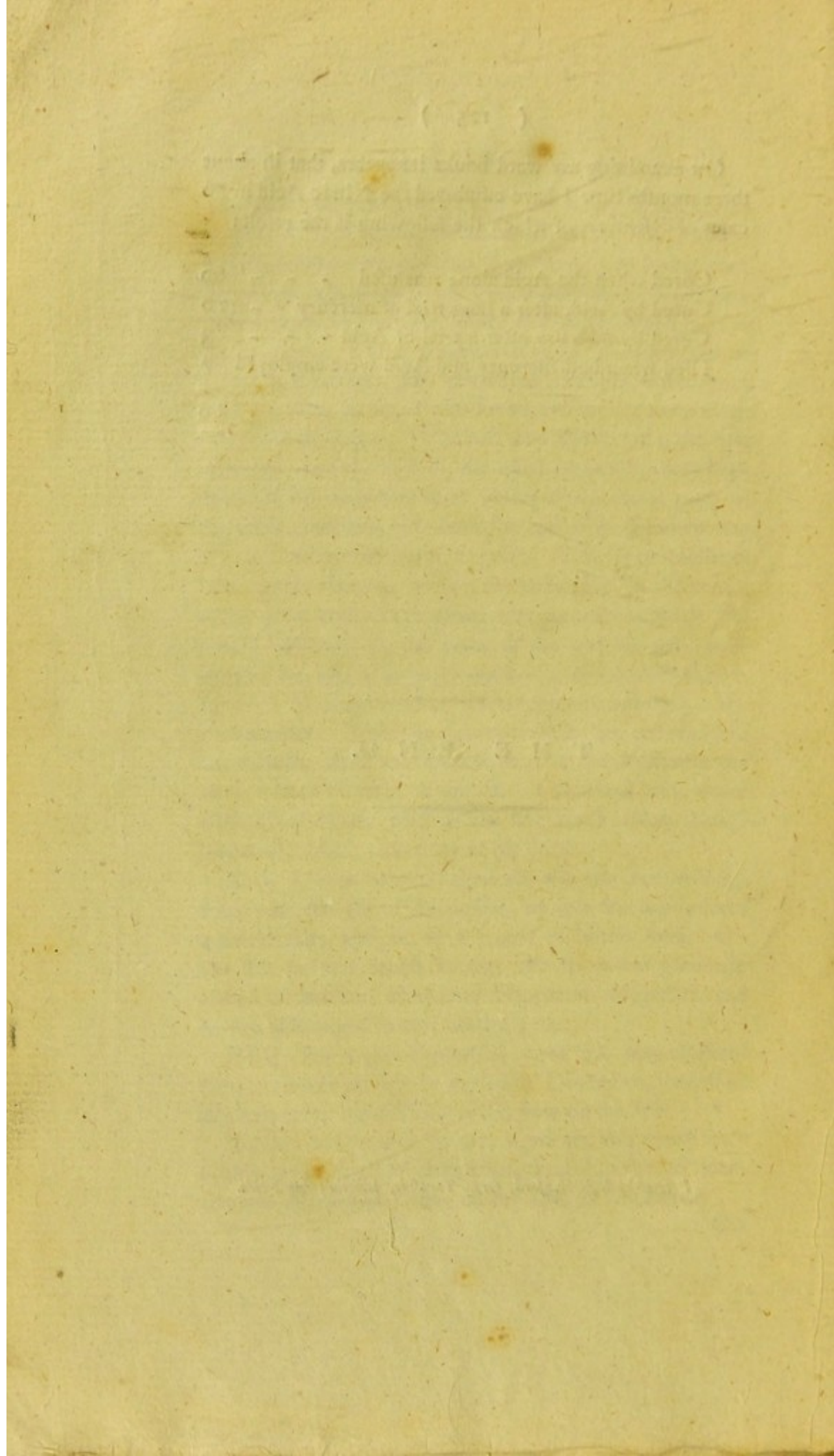
Cured when the Acid alone was used	- - -	60
Cured by Acid, after a long trial of mercury	-	16
Cured by mercury after a trial of Acid	- - -	3
Died when both mercury and Acid were employed		7
		<hr/>
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T H E E N D.

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