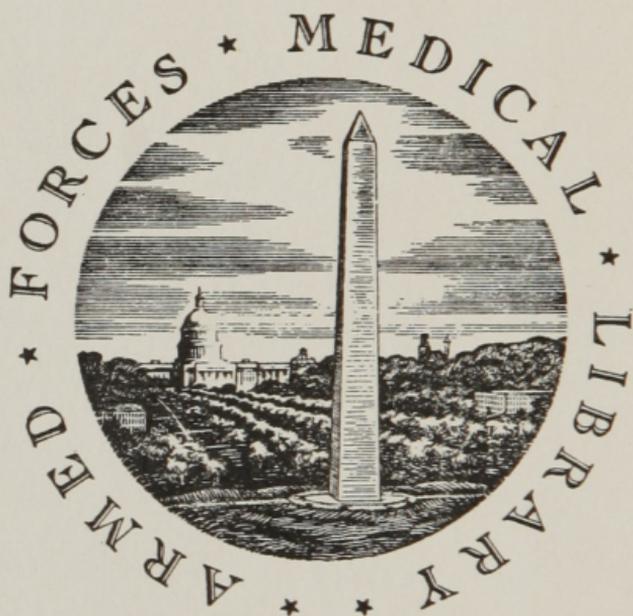


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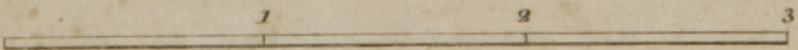
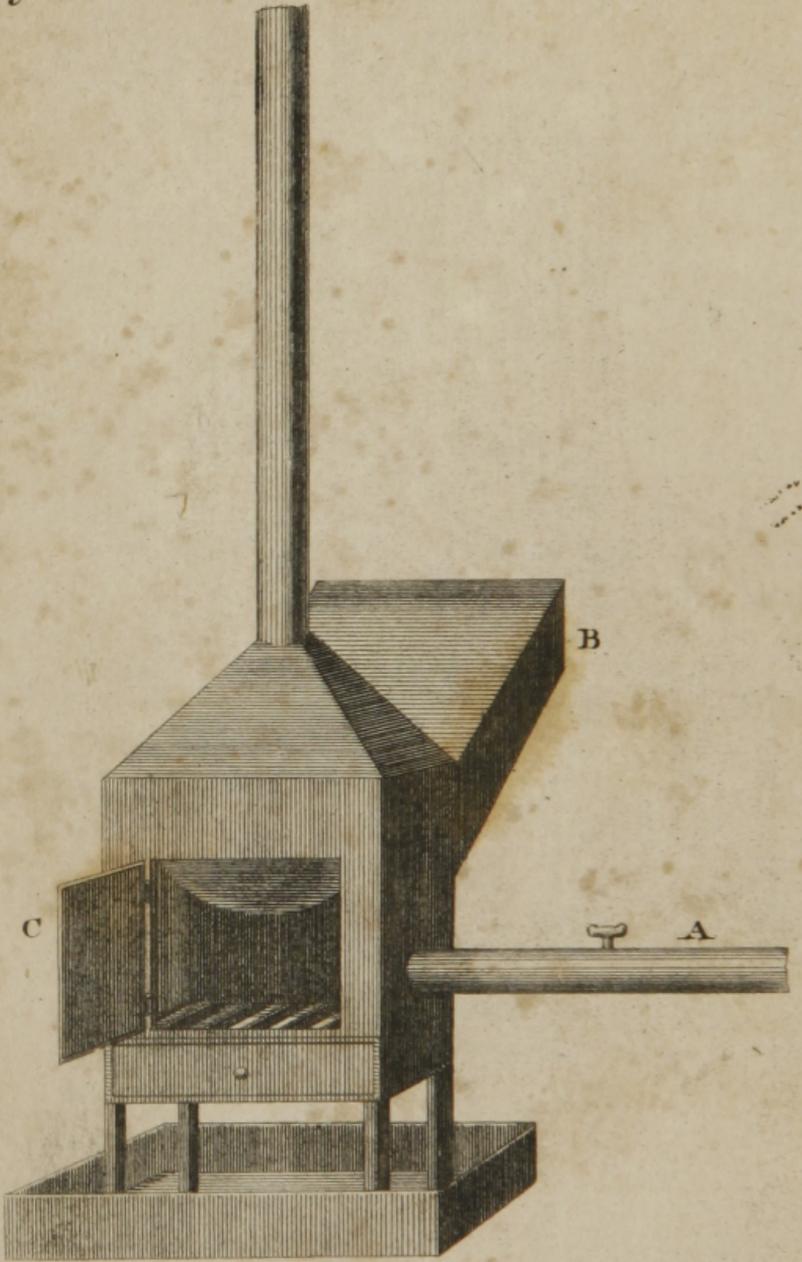


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See Page 43



OBSERVATIONS

ON THE

MEDICAL AND DOMESTIC MANAGEMENT

OF

THE CONSUMPTIVE;

ON THE POWERS OF

DIGITALIS PURPUREA;

AND ON

THE CURE OF SCHROPHULA.

BY

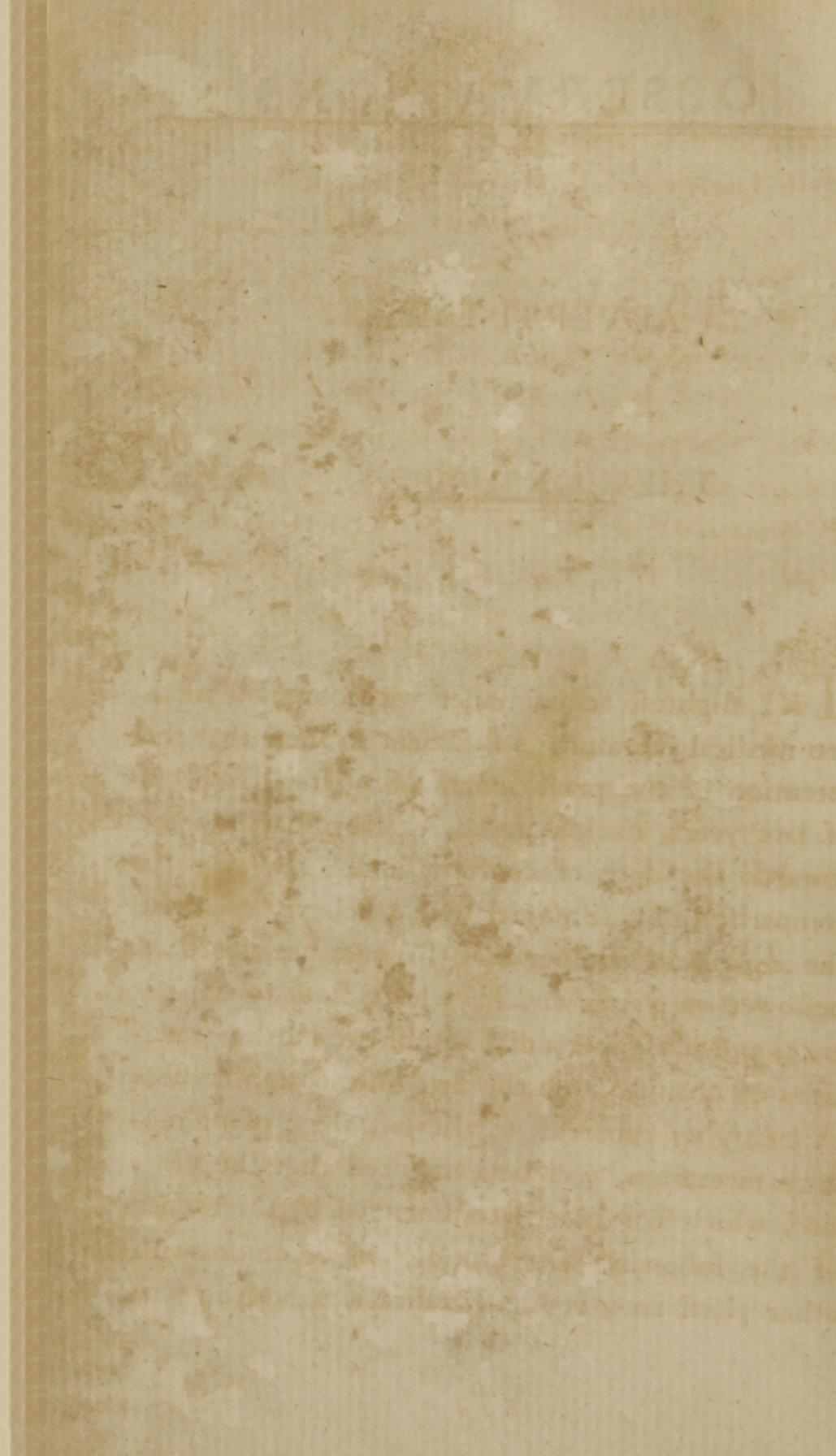
THOMAS BEDDOES, M. D.

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1803.



ADVERTISEMENT.

THE slightest acquaintance with our most modern medical literature is sufficient to shew that the attention of the practitioners of physic has been, of late years, excited in an extraordinary degree towards the cure of consumption. An accurate comparison of testimonies will, I believe, convince the impartial examiner that this care has not been bestowed in vain; and he who resorts to experience, and has opportunity to observe all the gradations of phthisis from the first distinct appearances of enlarging tubercles to the last stage of pulmonary ulceration, will be convinced that the practice, which has been recommended by the author of the following Observations in common with other physicians, is highly efficacious both in pro-

ducing the diminution of suffering, where it cannot preserve life, and in preserving life, where every other method would be unavailing.

The proofs of this assertion are daily accumulating; and the number of the sceptical is, I apprehend, daily lessening. The voice, however, of staunch contradiction is not unfrequently heard. In spite of the fullest and most accurate reports, confirmed by the judgment of more than one medical practitioner, and authenticated by the name of the patient, we find anonymous writers venturing to pronounce that *there is as yet no evidence of any cure of confirmed consumption*. An anonymous writer is good for nothing as a witness. He has no other way of invalidating testimony, but by shewing the inconsistency between the circumstances of the narrative themselves, or between those circumstances and the deduced opinion. But although this has not been even attempted, it is probable that the wide circulation of certain periodical publications, in which these hazarded decisions may be read, has rendered them mischievous.

For the treatment of consumption, however, a great deal more remains to be done than to add to the mass of unexceptionable evidence, lately produced. No uniform method, and no single med-

icine is capable of effecting a cure in all the cases, referred to any one denomination of disease. If this were not directly proved by experience, it might be inferred from that endless diversity in the susceptibility to first impressions and in secondary or associated motions, which may be observed in different individuals. This will be a standing reason for seeking substitutes and auxiliary means in medicine, till the promise of that happy uniformity, by which some have ventured to sooth the present miseries of our afflicted and unequal race, shall be realized.

In phthical complaints, difference of constitution has peculiar influence upon the event. These complaints affect all classes, though not all in equal proportion. *And that class, among which their victims have hitherto been the most numerous, will probably be that in which the treatment, lately so much canvassed, will, when unassisted, most frequently fail.* Upon those whose experience is large enough to put this proposition to the test, partial success, if they find it true, should operate only as an incentive to more strenuous endeavours.

In these endeavours we must follow some sort of analogy. Hence I considered it as useful to investigate the powers of digitalis, which, with regard

to the inhabitants of this island is becoming nearly the most important article of the *Materia Medica*. The reader will find that I have endeavoured to bring a variety of facts to bear upon the question concerning its operation, which hitherto has been much too superficially considered, however confidently it may have been pronounced upon. I hope I have in some measure succeeded in fixing its medicinal character. Let me, however, be understood as saying this in relation to the dimness of our views in directing remedies and the grossness of our conceptions concerning their virtues. Those who with sufficient knowledge of inorganic philosophy have steadily contemplated the animal machinery, must be satisfied of our incompetence to any thing better than remote conjectures concerning organic action. Of course, we can have no clear connected acquaintance with the nature of any disease or any medicine.

What I have to say on scrophula, not appearing in the form of consumption, is simply practical. I write in recommendation of a remedy, neither discovered by myself nor unknown to medical (particularly foreign) authors, but certainly not sufficiently valued in this country. I shall of course be desirous to learn how it succeeds with my brethren, but I confess I shall not wait for their reports with

any great anxiety. The article in question requires much less patience in its administration than digitalis: and I have found it in a considerable number of the most unpromising cases one of the most certain of remedies. I expect therefore that it will be allowed to take its station in the *Materia Medica* with little opposition. Where it fails, we may have recourse to various substitutes, strictly analogous.

I consider it as a great advantage that I have been so often permitted to name the persons whose cases I describe.

In the *sciences*, an examination, proceeding upon fixed principles, and very often internal evidence alone, is sufficient to determine the value of matter newly offered to the public. But in medicine, in which the facts are incapable of arrangement, and which is consequently no science, extraneous marks of authenticity are equally desirable to reader and writer. It is therefore worth while to observe, that although in all the following instances the author exercised his judgment respecting the nature of the complaint, in none scarcely did he stand single; and, most commonly, several medical men had seen the patient, and were perfectly agreed concerning this particular.

I did not find it easy to separate what is designed for different readers. The unprofessional may consider part of the following pages as an appendix to my Essay on Consumption. I was not indeed extremely solicitous to make such a separation. The better people are informed concerning medical practice, the less will they intermeddle: the less frequently also will they be the dupes of the crafty and inert part of the faculty, and the more readily will they co-operate with those, who spare neither their faculties nor their credit in behalf of the sick.

CONSIDERATIONS

ON A

MODIFIED ATMOSPHERE,

IN

CONSUMPTIVE CASES.

THE effects of temperature, though important in all diseases, and, in some, of primary importance, have hitherto received but slight attention. Of course, the means of applying heat and cold, generally or partially, have been very imperfectly provided for medical use. This fatal negligence will continue till public opinion, grown more enlightened, shall oblige medical practitioners, in a much greater degree than is at present customary, to forego ease or emolument in consideration of the advantage of the sick. The physician (whose profession, as it is sometimes carried on, is the laziest of all possible occupations) receives his fee just as well without troubling himself about any operative regulations. The apothecary has not yet invented the

art of *dispensing* heat and cold.* The friends of invalids are not unfrequently unapprized of the importance of these measures; or they are indolent or parsimonious, or disposed to consider every thing, not comprehended within the ordinary routine of practice, with aversion.

When any beyond mere household means, which are seldom originally provided with much regard to the accommodation of the sick, are to be employed for the regulation of temperature, it is obvious that the consent of the friends must be obtained. There is another reason for wishing *them* to have a conviction of the utility of such attentions. The superintendance of the means must in great measure be confided to them; and where he does not meet with intelligent co-operation, much more where he is counteracted, the physician will

* No college of physicians has yet enjoined an ice-house as a necessary appendage to the apothecary's shop; though the public might advantageously forego a considerable proportion of the rare exotic articles in any existing pharmacopœia for the sake of so vulgar a domestic production as ice. When men are better instructed in the laws of their own nature, they will be less eager about ice as a luxury than as a powerful instrument of health. Public ice-houses will be constructed in our cities, towns, and villages. Had ice been at hand and properly used during the burning summer of 1800, many of those who were cut off by liver and bowel diseases would have escaped unhurt.

feldom find his beft endeavours in flow and dangerous difeafes fucceed.

The history of the fmall pox affords one very ftriking example of the neceffity of attending to the ftate of the atmofphere. Sydenham has a remarkable obfervation, tending to fhew the utility of avoiding the heat of the bedclothes in pleurify: and whoever will fteadily purfue the cold regimen in inflammations of the cheft, and probably in all others, will find his care well rewarded. Two of my medical friends, without communication, have afcertained that a rheumatic fever, fuch as is imperfectly cured by fudorifics in feveral weeks, yields in two or three days to cold. During the prefent war, the ableft phyfician* in the fervice of the French republic, at leaft among thofe who are pub-

* Dr. J. F. L. Lentin, (*Medizinifche Bemerkungen auf einer Reife*, Berlin, 1800) after mentioning the excellent regulatjons voted for the French hospitals, and the wretched ftate into which they fell under Robefpierre, adds: “Notwithftanding all thefe
“wants and hindrances, the Mentz hospital is diftinguifhed by
“the order that is preferved in it, and by the excellent treat-
“ment of the fick. This is, however, folely to be afcribed to
“the worthy phyfician in chief. The genius of Wedekind,
“which is fully adequate to fuch an institution, fupplies what
“is wanting, regulates the whole, animates thofe who are fub-
“ordinate to him with his own fpirit, fets afide all obftacles,
“and fecures to the fick attendance and fuccour.” “He was
“treating rheumatifm with cooling means; and afcertained,
“that patients of this defcription found themfelves well in a

licly known, has been accustomed to place his rheumatic patients with advantage in a stream of air. Within the last twenty years, a remedy for fever, which was before an entire desideratum, appears to have been found in the application of cold to the surface of the body. In time, the proper graduation of this remedy will be discovered, so as to adapt it to all the variety of cases.

In consumption, the effect of temperature is not doubtful. Steady warmth creates an exemption in favour of those who would become its prey in a variable climate. The diversity of our own seasons makes a difference in the frequency of the disease.* Casual observation evinces, that in many instances the cough is much aggravated on respiring a colder air. A persuasion has long prevailed, that residence in hotter countries is beneficial to British invalids; and the principle seems perfectly just, though in fixing their destination it appears to be most grossly misapplied.

These considerations have induced the author to pay all the attention, he was allowed to pay, to temperature; but he has never dared to trust his phthical patients to warmth alone; hence he has

“very cold air, and even in a draught of air. The success of
“his method was striking upon the whole. Most patients were,
“in a few days, in a state of convalescence.” Ss. 13. 19.

* Essay on consumption. Ed. 2d. pp. 22—32.

none of those pure experiments to relate which are so desirable, but so difficult to obtain, in medicine. In the course of his observations, however, the effect of temperature was sufficiently distinct.

I shall first describe the few cases in which the sole or principal reliance was placed upon heated and otherwise modified air. In daring to commit narratives of this cast to the press, I feel that I am preparing a feast for those who resort to ridicule, if not as the test of truth, yet as the supreme delight of rational and immortal minds. But I hope too to interest those whom no ludicrous accessories can prevent from viewing with complacency the first awkward and unsteady advances towards an useful object.

Circumstances previous to October, 1799, which influenced the author in his subsequent proceedings.

The more obvious means of enabling invalids to respire an atmosphere permanently modified, of a regular temperature, and at all likely to improve the condition of pulmonary ulcers, offered no great choice. Residence in a cow-house seemed by far the simplest, safest, and least disagreeable among the expedients actually adopted. And partly from rumour, and partly from the peculiar point of view in which I took up the treatment of the disease, I have long been in the habit of recommending it.

Nor is it without extreme regret that I now look back upon the number of instances in which my recommendation failed. Not unfrequently did I forfeit the good opinion of my patient. Sometimes the expence was felt as an insuperable bar: sometimes the patient's mental torpor* stood in the way; and at others the exertion necessary on the part of the friends defeated the scheme. Against this and other experiments, merely as experiments, I have found people prepossessed much more rarely than I expected; and requiring the curb rather than the spur.

A gentleman in the last stage of consumption, i. e. with diarrhœa and swelled legs in addition to the other symptoms, mortified by the refusal of the master of a lodging house to admit cows into it, quitted Clifton; and after a journey of three weeks, executed the plan, greatly to his relief, though not to his recovery.

* This happy passive state has often (particularly in phthical girls) excited my astonishment. One would suppose, that finding themselves grow worse, week after week, and month after month, they would shut the door in the teeth of their unservicable medical attendants. Yet in nineteen cases out of twenty, they are almost to the last gasp, ready to swallow nauseous drugs to the measure of the wish of the most drenching apothecary, and disposed to be lulled by the equivocating consolations of the shallowest physician.

About three years ago, an Irish lady went to a considerable expence in fitting up a cow apartment. But a mob of females, who could by no means bring themselves to fancy the scheme, having unhappily got intelligence of the time when the cows were to be driven through a certain passage, assembled at its mouth, and scared the animals so much, that their passionate owner, notwithstanding the extravagant price for which he had bargained, refused the patient their use on any terms. She herself, in disgust, set out the following day for Dublin, where in a few weeks she died. Of this ludicrously brutal scene, my friend, J. Hare, Esq. M. P. was a spectator.*

* These petty circumstances are related to fortify those who would do good in any unusual way, against the disgusts they are destined to devour. In general they may be assured, that as in the present instance, perseverance will finally conquer.

Last year, a stable, known not to be occupied by its ordinary tenants, was anxiously wished for, in order to give a consumptive person a chance for his life. On application by the patient's brother, the owner protested "he would do any thing to serve him. But" (I copy the words of a note I received on the occasion) "there is a monkey in the stable, and a great many potatoes, which must not be removed." Lest this story, which has not been kept secret, should bring reproach upon the gentleman owner of the stable, as deficient in feeling for his fellow-creatures, it may be right to subjoin the following vindication :

The Monkey and his Host.

'Tis nature's second law to serve a brother :
And apes act right in cherishing each other.

It was, however, in consequence of this abortive attempt, that my idea of trying the cow-house became strengthened into an unalterable resolution. On the morning of the day when the lady and the cows were to be lodged together, I called on Mr. Hare, and told him I was about a project, which he, perhaps, would think as absurd as many thought my former medical projects. After I had explained myself, he related to me an instance so striking in its circumstances, as to impress me with a stronger persuasion of the efficacy of the cow-house plan, especially as he is well acquainted with the party. For my farther satisfaction, he procured for me a narrative from the patient herself, which is published in French in the fourth part of my *considerations on airs*, (Johnson) and is now, I think, become important enough to be reproduced in an English dress. For want of a translation it has, perhaps, been less noticed than a report, so interesting by its candour, its accuracy, and by its result, deserves to be.

NARRATIVE OF MADAME ———

“After a miscarriage at three months, during which I took little care of myself, and after which there remained a discharge of blood for several weeks, I fell into a consumption. It began with a short dry cough, attended by slight feverishness.

This I neglected, still continuing to go out, to keep late hours, and in *every thing* to live in a manner too agitated for my state of health, which daily declined. At length I spit blood mixed with purulent matter. My legs swelled. Though not quite irregular, I was much disordered, the quantity being very small and the quality bad. I had lost my sleep; and being as ill as possible, I had several consultations of the first physicians in Paris. The result of these was, that the complaint was concluded to be too far advanced to leave any hope of a cure. They prescribed asses' milk, and exercise on horseback, which last I was too weak to take.

I was nineteen. I beheld my end approach with deep dismay. One day when I was bewailing myself, a very sensible friend of mine paid me a visit. In the midst of his condolence he recommended me to follow his advice. Since all the faculty abandon you, said he, let me bring you a man who is treated here as a charlatan, because he is not known; but who, in my opinion, is a man of merit. He brought him. I spit blood in clots. I was in such violent pain, and my fever was so high, that I cried out, waving my hand, Ah! if there is yet time, save me! He promised to do all in his power; but I heard him say, in a low voice, that it was very late. This did not reduce my

fever. He made me promise to follow his orders exactly, how painful soever they might be. I assured him I would obey him implicitly, and I kept my word. He put me, in spite of my fever, into a warm bath, quite close to my bed. I remained in, three quarters of an hour, which quieted me a good deal. They put me to bed much more tranquil, and I had some hours sleep, which convinced me that I was much better. The next morning he put a blister, six inches long, and four broad, upon my chest, which made me suffer a great deal, with very little advantage.

My extreme thinness made it much more painful; he removed it and placed it between my shoulders, where I had it four months. Not finding that it had the desired effect, he gave orders for a stable, with three cows, to be prepared for me. This was done in less than twenty-four hours, in a coach-house belonging to my house. They broke open a window, and contrived stalls for three cows. A wooden railing, high enough to lean upon, was all that separated me from the cows. My bed was placed upon planks, about one foot from the ground, the better to let the filth run under. These planks were purposely ill joined, that the vapour might penetrate; and it was so strong, that every thing white which was brought in, became reddish in a very short time. My apartment was

divided into two rooms; that which I lived in was pretty large; and in it was a bed, without curtains, furrounded by a gauze blind, such as they use in Italy for the same purpose, which is to keep away the flies, which always abound in stables, and are particularly insupportable during illness; a wooden table, two straw chairs, without cushions, bare walls; such was my chamber. There was a sort of antichamber for the woman who took care of the cows. My surgeon and waiting maid lodged over head. I had two different bells, to call them at pleasure. Here I remained nine months without intermission, with the exception of a few rides in a close carriage, the horses not going beyond a walk over the pavement, because of the jumbling, which hurt me terribly.

I forgot to say that my blisters never mattered but in the stable, but that to keep them running it was necessary to apply fresh blistering ointment every two or three days. At first this weakened me much; but the hope of recovery kept up my spirits.

I already spit less blood; soon the expectoration was but tinged; afterwards the matter became daily less gross; the legs ceased swelling after being a week in the stable. The first month I was regular, but the quantity small; the next it was a little more copious, and went on continu-

ally improving. From the moment I entered the stable I renounced every species of food, except milk. Asses' milk at five o'clock in the morning, which before I was obliged to dilute with spring water, passed in the stable without any addition. I had to inhale, morning and evening, the milk just drawn from the cows. All day I drank nothing else, but rice milk in the morning, well boiled and skimmed; nothing else. I did not even taste bread for nine months. Indeed I had the good fortune not to wish for any thing else. People came to see me as an object of curiosity, and they found me so much changed, that they thought it was all over with me. The Duchess of Orleans paid me a visit, and after my recovery she recommended Dr. Saiffert to the Duke, which was the means of making his fortune. From the moment of my convalescence, every body was eager to consult him, and in general found he answered their expectations. But I ought to tell the services he rendered me: all my dressings were done by him or in his presence; he visited me five or six times a day, to console and encourage me to bear my sufferings with patience. In short he saved me, at the expense of my hair only, which all fell off, and which he made me shave. It was necessary to repair my foreteeth, which I had neglected during my illness; and I was abso-

lutely forbid to play upon the harp, which had made my breath very short; but what is all this in comparifon with life? It was fome months before my ftomach could bear its ordinary food; and it was with four crout, very fimplly drefsed, and a little bark in wine at night, and Venice treacle that I perfectly re-eftablifhed it.

My nerves remained irritable for a long time; but all this difappeared in lefs than a year: and I am become quite a ftrong woman. The two principal injunctions of my phyfician were thefe: to guard againft blood-letting and cold, which I did, as much as poffible; but this climate is damp, and in fpite of my precautions I was fubject to colds.

At this moment, while I am writing, I have a violent cold, with a blister at my cheft.

I am now thirty-fix. I am not fo ftrong as I was at nineteen; but for all that I fhall weather it out very well. Affes' milk, quieting medicines, a blister, which muft not be fuffered to rife too much, becaufe of the irritation; no wine or tea; a great deal of barley water, diluted with milk and a frefh egg, taken fafting in the morning; and exercife on horfeback in fine weather. I am well convinced, that with this regimen confumptive people might always get well. When the cough is violent, the mouth ought to be moiftened; a glafs of barley-water is enough. This does not lie

heavy on the stomach, as most syrups do; and I always found myself relieved by it. A great deal of camphor and opium ought to be put into the blister, that it may occasion as little irritation as possible.

In answer to the questions of your friend, Dr. Beddoes, I can assure him that I had night-sweats almost always, and shiverings more or less slight, followed by heats, more or less violent, which continued long after I was in my stable, and left me only in consequence of my blisters."

A senior prince of the blood, with whom I had an interview at the Hotwells, on the subject of his health a few years ago, understanding that I wished to give the plan described in the preceding letter a fair trial, informed me that he was acquainted with the writer. He added, "that he knew some emigrants of distinction besides, who had been cured of confirmed consumptions, in the same manner, by Dr. Saiffert."

On the passage of the present Duke of Orleans and his brothers through Clifton, last winter, the Count de Beaujolois was seized with pneumonia, which gave me an opportunity of learning from these gentlemen, that Dr. Saiffert was well understood to have succeeded in various acknowledged cases of consumption. But on account of their age, at the time, they could give no particulars.

Cases treated under the author's inspection.

CASE I.

MRS. FINCH, daughter to Dr. Joseph Priestly, had, for many years, greatly suffered from weakness of stomach and excessive muscular debility. It was often a severe trial to her to sit upright for above half an hour. The recumbent posture always afforded great relief. I saw her first at the close of the summer, in 1799. Some months before the origin of the complaint for which she consulted me, Mrs. Finch had undertaken to superintend the education of a few young ladies; an occupation which, especially considering the earnestness with which she carried it on, requires much exertion of the voice.

The following letter will explain Mrs. Finch's state for some time before I saw her. On her arrival at Clifton, she told me she had been much alarmed by a pulmonary hæmorrhage on the journey. The expectoration was completely purulent, and amounted generally to several ounces in twenty-four hours. She had regular chills, heats, and profuse nocturnal perspirations, particularly about the lower extremities. Her flesh and strength had

rapidly declined. It was remarkable, that the pulse was seldom above 76; but though in frequency it varied so little from the healthy standard, it had a range of force inconsistent with health, and was in this respect highly feverish. Several times, with a view to its comparative strength, I examined it in the morning and after dinner; in the afternoon, (when the skin was also too hot) I found it full, bounding, and altogether different from what it had been in the earlier part of the day.

In Mrs. Finch's family there had been many martyrs to consumption. Two aunts had died of it; and her mother, who died of a fever, had been subject to a cough and profuse pulmonary hæmorrhages.

Mr. Barr's account of Mrs. Finch's case.

Dear Doctor,

I am sorry that I have been so long prevented from replying to your request respecting Mrs. Finch. Excepting in the insidious mode of its attack, and the almost total absence of vascular fever during the whole time that she was my patient, I recollect nothing in this case different from the usual progress of pulmonary consumptions. There were occasional accessions of dyspnoea, from real

or supposed colds, attended with shivering and increased expectoration; and these were followed by flattering remissions and sanguine hopes. The disease was not preceded by general fever, or any marked local inflammation, but I believe, had arrived, at what is usually styled the second stage of phthisis, the expectoration of pus, before even she herself suspected that she was seriously unwell, or thought it necessary to apply for medical aid. The quantity of matter expectorated in any given time, was never accurately ascertained; it varied exceedingly, and was often affected by causes that cannot well be explained. I stated to you in a former letter the effects of the digitalis, of opium, of myrrh, and of ether in this case, and certain affections of the stomach, that rendered it necessary to alternate and vary the use of them. Since that time the case has been under your own management: and I have no doubt of your having concluded with me, that all the known remedies for consumption have but little power in mitigating the symptoms, and none in producing a cure of lungs so diseased. It appeared to me, according to the best rules of medical calculation of which I am professed, that in a few months Mrs. Finch must have fallen a victim to a cruel malady, from which our art could not deliver her.

It gives me the sincerest pleasure, that the cow-house has so completely suspended the progress, and removed, for the present, every serious symptom of this once hopeless case.

I am,

Dear Doctor,

Your's respectfully,

JOHN BARR.

Birmingham, Dec. 19, 1799.

To Dr. BEDDOES.

I had been informed that digitalis, in small doses, had produced disagreeable effects, without the smallest advantage. Mrs. Finch suffered me, repeatedly, to satisfy myself on this point; and I found, for the first time, what I have oftener than once observed since, that a single drop of the saturated tincture, taken three times a day, produced languor and squeamishness, without abating the cough, expectoration, or hectic symptoms. After this discovery, I informed Mrs. Finch, and her brother, Mr. Joseph Priestly, that in my opinion, to seem to place the smallest reliance on medicine, would be to encourage a fatal delusion; and that there only remained the choice between a sea voyage and (what might appear a very extravagant proposal) constant residence with cows. Mrs. Finch asked me which alternative I should prefer

in her situation. I told her, undoubtedly residence with cows. I shall afterwards explain, why I hope little from failing in cases like her's. After a short consideration, she acceded to the proposal, and never afterwards shrunk from its execution, or betrayed a single sign of impatience during her long confinement.

A stable adjoining to one of the houses in Gloucester Row, Clifton, twenty feet long, fourteen wide, and nine high, with a small recess, was engaged; and a space sufficient to contain a moderate bed, with a little room to place a table and move about, was partitioned off; and this part was raised, by coarse boards, a few inches above the ground of the stable. Two cows were first placed in the other part of the building, for a few days before Mrs. Finch took up her abode in it.

The complete journal of this case would furnish materials for a book of moderate size. It will, however, be sufficient to describe the remarkable changes in Mrs. Finch's feelings, and in the symptoms.

The first night she had been oppressed in her breathing, and the next day I prevailed upon her to apply a blister to the chest, though she predicted that it would exhaust her, without producing any good effect. The following night there was little or no oppression; and the air henceforward

became in the highest degree grateful, or as Mrs. Finch termed it, *balsamic*. The night sweats abated, and soon ceased altogether.

Within about a week from her entrance, she was obliged to sleep a night out of the cow-house, on account of some alteration. That night the hectic symptoms, and particularly the perspiration, returned.

In about six weeks she slept, for the same reason, three nights in a common apartment. The night sweats had now long since ceased, nor did they return the two first nights; but the third the lower extremities were bathed in perspiration. The air of the apartment was kept three degrees higher than that of the cow-house; but the breathing was laborious, and instantaneous relief took place on returning to the cow-house. On a third subsequent removal into the lodging house, for about a week, no sign of relapse occurred.

I had been endeavouring to persuade a gentleman, who had resided two or three winters at Lisbon without the smallest advantage, to try the cow-house, rather than return to Portugal. He was curious to have a statement of Mrs. Finch's feelings. I have preserved the note she wrote on that occasion. It was about a fortnight after her entry into her humble abode. The account is as follows :

“Mrs. Finch’s compliments to Mr. —, she can assure him that she has found a cow-house a much more comfortable abode than she had formed an idea of.”

“During the nights, particularly, she has experienced a genial warmth, which has relieved *oppression* on the *chest*, taken off restlessness, and given a feeling she cannot better describe, than by saying it is, as if *nourishment* was conveyed through the pores of the skin. So different have been her feelings from those of the last six months, that she should reluctantly change her apartment for the *night*, however she might wish a *cleaner* and more *cheerful* one for the *day*.

“Cow-house, Oct. 8.”

The symptoms gradually abated. In ten weeks there was no vestige of hectic fever; and the cough and expectoration ceased entirely for days together. The expectoration would return, at longer and longer intervals, in a quantity not exceeding the bulk of a garden pea. But whenever there was the smallest quantity of expectoration, (and it now took place only in the morning) it never failed to be preceded by distinct febrile rigor; and the chill was never felt without subsequent expectoration.

From the beginning of Autumn, 1799, Mrs. Finch lived in the cow-house for about six months, with the exception of a few days.

The following particulars are owing to Mr. Finch's hourly and assiduous attention :

“ There were two cows for one month ; three the remainder.

There was a small stove in the part where Mrs. Finch slept, which was used for two months nearly half the day ; afterwards, only in extreme frost, or on the room being damp, which from its low situation it was subject to be.

The degrees of heat were, for two months, from 60 to 65 ; afterwards 65 to 70 ; but in general 68, or to the heat most agreeable to Mrs. Finch's feelings.

The cows were allowed very little straw for a month or six weeks ; nor was their standing cleaned. Afterwards they had plenty of straw, and their beds were kept tolerably dry.

The cows' wet had all along a nauseous effect.

The cows' horns were noisy, especially in the night. Young cows, without horns, would be most desirable, and such as are young in calf.

Hay of the best quality, and the freest from dust, was found preferable on all accounts.

The straw should be dry and clean.

The cows were watered twice a day, not so sparingly as might have been. The better the hay, the less water necessary.

Halters to tie with, preferable to chains.

The master cow to stand first to the left.

The windows were ill placed; they should face to the south. They had a northern aspect, on account of the conveniency of communicating with the house.

If the patient's apartment could be on a low floor, above the cows, would not many disagreeable circumstances be avoided?"

I was at first apprehensive of excess of warmth, and my anxiety on this head, together with that of Mr. Joseph Priestley, probably retarded Mrs. Finch's recovery at first. During the subsequent period, careful attention to circumstances induced me to request, that in regulating the temperature no standard might be regarded but the feelings at the moment, and for some time afterwards. In a paper lying before me, Mrs. Finch says, "I always felt best when the thermometer was at 68° or 70° ; and when there was a medium between excessive damp and the too dry heat of a constant stove. The stove, lighted in the morning, to dry a little of the moisture collected during the night, was pleasanter to my feelings."

Successive generations of flies were a considerable nuisance; and the cordage and other parts of the bed were speedily rotted. The vapours were evidently alkaline. They gave nobody cold.

No attendant indeed suffered from a longer or shorter continuance in a medium so much warmer than the atmosphere. One lady, who spent the greatest part of many days with Mrs. Finch, was greatly relieved from the pains of a chronic rheumatism.

After leaving the cow-house, Mrs. Finch lived for some time in common apartments, kept more than usually warm. In May, 1800, I recommended it to her to try the effect of sailing, against a future emergency. The following letter, I thought, gave me a right to congratulate myself, on the preference I had given to the cow-house.

Birmingham, June 4, 1800.

“I wrote to Mrs. D——, desiring her to inform you of the event of our first little voyage, which fatigued me very much. I recovered by a rest of some days, and then we proceeded, by gentle stages, to Tenby. From thence we sailed to Cardiff, when the sickness and cold again threw me back, and I required some days to recruit. We then had a delightful *journey* by Shepton. Slow travelling has been of service to me; but what benefit I am to receive from a *voyage* must be from a *long* one, as short trips by sea have evidently hurt me.

“Believe me your respectful

“S. FINCH.”

In a letter, dated August 15, Mrs. Finch writes :

“I am happy in being able to say, that my chest continues perfectly well ; and from the difference of my feelings now, and some years back, I am more than ever a friend to the cows. I avoid colds and night air ; and by rides in the country am anxious to brace myself against winter, without the necessity of a sea voyage. Mr. Barr thinks, if no unpleasent symptoms appear in autumn, double windows, and confinement to two rooms upstairs, properly regulated, will suffice next winter, without change of climate, and I hope you will be of the same opinion.”

After this date, for many months I continued to receive, either directly or indirectly, the most favourable accounts of the state of this interesting patient.

During the whole winter Mrs. Finch confined herself to an apartment, artificially heated, and continued to enjoy entire freedom from pulmonary complaints till March, 1801, when she got a violent catarrh, respecting the consequences of which I entertain some apprehensions. She thus describes her situation, in a letter, bearing date

“Bordesley, *March 29, 1801.*

“I should have answered your letter before, but I have been too ill to write, with spasms similar to my former attacks ; only now they have chiefly

been in my bowels, attended with *retchings*, and on my breath, which is by fits *very bad*. My cold, which you are so kind as to inquire after, was attended at first with so great a discharge of thickened phlegm, as I think, by weakening me, to be the chief cause of my present spasms. I have a trifling cough remaining, and am very weak, not being able to keep long off the bed.

“Till this ill fated cold I had passed the winter with great credit to the cow-house, the *air* of which I still prefer to my warm room, though it is of a good size, and lies to the sun.”

CASE II.

A YOUNG person, with purulent expectoration, rapid pulse, and violent hectic fever, on whom the tincture of digitalis had been tried in vain, hearing of Mrs. Finch's amendment, consented to try the same expedient. The first night she was considerably oppressed in her breathing. This oppression immediately abated; the hectic symptoms rapidly declined. The strong rigors and drenching night sweats never afterwards returned.

This young person was seriously affected with a nervous complaint, not answering to the usual appearance either of hysterics, epilepsy, or catalepsy.

At uncertain times, but ofteneft about midday, a degree of torpor, with cold extremities, came on and rose to perfect insensibility, without convulsions or spasms. Great doses of opium sometimes prevented and sometimes lessened this seizure. On the whole, it was neither better nor worse in the cow-house than it had been elsewhere. It continued till near the death of the patient. Conjoined probably with this nervous complaint, there existed an almost intolerable thirst (*sitis frigida*,) of which I wished to attempt the mitigation by salted

meat and spices ; but the imperious feeling prevented compliance with this proposal. The patient was constantly accustomed to swallow immense quantities of cold water, even at a time when the whole system was of a death like coldness.

Nevertheless, for about three weeks the pulmonary symptoms continued to abate ; and an increase of flesh and strength was manifest.

About this time a number of moral causes began to operate in the most unfavourable manner. Various correspondents spoke of the *disgrace* of being in such a situation. This mortified the patient ; and instead of that perfect content which was felt at first, the pity received produced a persuasion, that the situation was really one much to be pitied.

The affections of the heart now became a source of torment. The irresolution of the nearest relations, whether to change the treatment (as under these circumstances was advised) continually tantalized the patient. The temper grew obstinate and peevish. No arguments could sometimes produce conformity to directions. The affusion of cold water, in case of evening heats, was often preceded by an hour's fretting.

During this period the patient was sinking. After long hesitation a removal took place, and the case soon ended fatally.

CASE III.

A GENTLEMAN who had been under the care of respectable practitioners at Manchester, arrived here in that state in which it is uncertain whether existence is likely to be protracted for a few weeks or a few months. In addition to the ordinary symptoms of consumption, he complained of colliquative diarrhœa and œdematous swellings of the feet. His brother, who desired that some new plan should be tried, since medicine had been so long used in vain, forwarded, with the utmost activity, the preparations necessary for entering into the cow-house. Here, for the first week, considerable relief was obtained; but no change took place on which rational hopes of recovery could be founded. The swelling of the feet went off, and did not return till the patient was removed from the cow-house. The diarrhœa was also checked.

After a trial of several weeks, the patient, in compliance with the recommendation of a friend, submitted to the trial of a sea voyage, in the course of which, on being landed in Somersetshire, he died. It has been already intimated, that immediately on the patient's quitting the cow-house, a return of the œdematous swellings took place.

CASE IV.

A GENTLEMAN belonging to the navy, greatly reduced by cough, purulent expectoration, and hectic fever, placed himself under my care in the autumn of 1799. For many weeks I treated him with tincture of digitalis, cicuta, opium, hyoscyamus and squill; but no check was given to the complaint. Mrs. Finch's encouraging example induced him to make trial of the effect of the cow-house. Here he continued for above three months. His hectic symptoms by degrees disappeared. His strength increased. It happened that his taylor measured him immediately before and immediately after his confinement. On comparison it was ascertained, that the circumference of his body had increased three inches. His limbs had thickened in proportion. Some cough and expectoration remained when he ventured back into common life. This was in April, too early a season. He continued, however, to improve in health, and now considers himself as a person with a delicate chest; not an invalid.

According to the rate of his decline before becoming a fellow lodger with cows, he could scarcely have survived to the period of his enlargement,

if his disease had been left to pursue its course. The atmosphere of the cow-house produced a change considerable enough to suffer his constitution to recruit. This could not have happened without a salutary change in the state of the lungs, for I have never known the smallest accession of flesh during the progress of phthisical pulmonary ulceration. In this case, therefore, I conclude, that the patient was indebted to his confinement for a long reprieve, at least, from the grave. The plan had not power enough, or was not allowed time enough, to restore the lungs to a perfectly healthy state.

CASE V.

NOT being able to persuade myself that the favourable effects produced upon phthifical invalids in a cow-houfe are owing to any caufe but to temperature and to the gaffes, given out by the fermenting mafs of vegetable and animal fubftances, in the following inftance I excluded the cows, retaining all the other parts of the plan.*

A patient with purulent expectoration, often tinged with blood, and the attendant hectic fever, who had already fuffered greatly during the preceding winter, and had a little recruited in the fummer, feemed, notwithstanding the exhibition of digitalis, to be finking with great rapidity at the clofe of autumn, 1799. No other refource occurring, I propofed to him to pafs the winter months in a place where he fhould have the chance of benefit from a warm temperature, and from exhalations fimilar to thofe in the cow-houfe.

A ftable with two ftalls was chofen for the trial. One ftall was filled very full of the materials ufed

* Alkaline vapour, fulphurated hydrogen gas, carbonic acid gas were very conspicuous in their effects. The nature and proportion of thefe gaffes require further examination.

by gardeners for hotbeds. In the other the patient's bed was placed.

While the hotbed was in strong fermentation, the temperature of the place was about 64, and the patient felt relieved. Occasional supplies of the soil of cow-houses and stables were added, as the first hotbed sunk; and as the winter advanced, and the warmth from the fermenting mass decreased, the stable became too cold, and it was necessary to introduce a stove. At 60° and below, the symptoms became more severe; 70° was an agreeable temperature to the patient, though he could well bear a much higher. His disorder soon ceased to make progress, but was not entirely subdued, during a confinement from November till March. The observations made upon the case immediately preceding, are almost literally applicable to the present. Impatience of solitude, and the patient's desire of returning to his labour, cut short the trial. But he was preserved from the effect of the winter, which probably would have been fatal, and entered upon the spring with increase of strength and flesh, and with his disease diminished in proportion.

CASE VI.

A LADY, upwards of fifty years of age, had laboured under all the symptoms of confirmed consumption. The expectoration, when I first saw her, amounted to many ounces; and consisted of pus, with a large proportion of mucus. The bowels were in a state of great laxity; and a very slight cause sufficed to produce a colliquative diarrhœa. Her situation gave her friends the idea of imminent dissolution.

Digitalis, and other medicines, at first produced no beneficial effect under my administration. As it seemed to me hopeless to propose residence in a cow-house, I advised that the patient should live during the winter, in a room fitted up so as to ensure the command of a steady high temperature. This advice was followed. Double doors and double windows were added to a bed-room. The fire-place was bricked up round the flue of a cast iron stove, for giving out heated air. One of the sides of the stove was pierced, so as to receive one end of an iron tube, the other end of which passed through the wall of the apartment, by which means the fuel was consumed by a current of external air. The iron tube was supplied with a regulator,

by which the supply of air to the fire-place of the stove could be checked when the fuel burned too briskly.

The plate fronting the title will assist the reader's conception, if the preceding description of this very simple apparatus should be in any part obscure.

The patient, whose existence seemed within a few weeks, if not a few days, of its close, was soon sensibly better. She kept the temperature up to near 70° , and the digitalis in small quantities, (with opiates and spice, and acids after a time) was continued as before her confinement. In about six weeks the hectic symptoms had subsided; the pulse, at different times between twelve o'clock and four in the afternoon, was from 70 to 80. There was an accession of flesh and strength. The cough and expectoration greatly decreased. From January till April she was in a very comfortable and cheerful state. But her hectic symptoms now began to re-appear: her cough increased. She continued in the warm apartments till May, 1800. From this time her health declined; and after keeping her room a very few days, she died at the end of February, 1801.

I had two other consumptive patients, who lived with cows for about three weeks each. One felt much relief at first; but the approach of winter

reduced the temperature of each place, during the latter days of their residence, as low as 54° . The patients were now disagreeably affected by the cold; and their friends, rather than be at the expence of the measures necessary for producing sufficient warmth, removed them: and I believe both died.

CASE VII.

THIS was not, in any respect, a pulmonary affection; but it shewed, decisively, the effect of temperature. A gentleman, who, probably from anxiety* or mental exertion, had long been declining in flesh and strength, was reduced to an alarming state of emaciation. No organic affection whatever could be discovered. The skin was dry, and the patient suffered extremely from cold. The distress from weak digestion was excessive. A diet, consisting in part of vegetables, occasioned at this period, as it had for some time before, an inordinate flow of urine. The urine was not saccharine, but had the odour, often observable in cases of indigestion. Innumerable remedies, principally with a view to strengthen the stomach, or to dislodge worms, had been uselessly administered. It appeared to me probable, that no physical power was so likely to operate favourably, as continued warmth. By its effect on the skin, I expected both to obviate a certain class of unpleasant sensa-

* This is a much more common cause of atrophy than I had supposed from medical writings. At least I have seen a considerable number of such cases clearly marked in their origin.

tions, and to improve the digestion. In both ways some impressiion might be made on this *hypochondriacal atrophy*. I was not disappointed. The patient had a building, like a square hollow monument, erected in the middle of a large room, with an arm going into the chimney, which was bricked up round the flue. A large stove was placed loose within the structure. Double doors and double windows were added. The greater part of the room was at a temperature of near seventy degrees. At the end of a month, the patient preferred the steady warmth of the West-Indies with power of locomotion, to confinement. On quitting his room he was found to have increased sensibly in flesh and strength. The hands, which before looked skinny and bloodless, had now a healthy appearance, when held up against the light. Flesh had been gained, and the blood-veffels appeared much better filled. The most remarkable circumstance is, that on the journey from Bristol to Falmouth, during the coldest weather of the early spring of 1800, the patient felt perfectly comfortable as to warmth, and even travelled a good part of the way with his chaise-window down; whereas it is certain, there would before have been no end to precautions for fencing against the external air. This observation seems to coincide with an opinion very generally entertained, that strangers from the tro-

pical countries resist the cold of the first English winter better than the natives. Indeed no proof fell under my notice, of the prejudicial effect of continuing a longer or shorter time in any of these heated rooms. No instance of an attendant's taking cold came to my knowledge; and had such an occurrence happened, it could hardly have escaped me.

The friends of the consumptive will, I trust, find these examples particularly deserving of their notice. In most cases, the business of prescribing and swallowing medicines, whether necessary or not, goes on smoothly enough, except when it happens that the physician is counteracted by some member of the family; the vulgar deception of tossing *doctor's stuff* out at the window being rarely practised. But when new and troublesome measures are to be taken, no success can be expected where the friends of an invalid do not go hand in hand with his physician.

It will strike the superficial, that in several of the preceding cases no complete cure was effected; and undoubtedly the reporter must sincerely lament that he was not throughout successful. The success he had in one instance, rendered his sense of disappointment in another more poignant. But when it is remembered that the situation of the parties, so alarming on account of the nature of the

disease, was rendered altogether desperate by its degree,* and by the failure of the most powerful remedies, the means of preserving the smallest proportion of lives will deserve to be accounted an acquisition to humanity.

Another way of calculating these events is indeed generally adopted. Deaths which would happen in the course of nature, deaths *which would equally happen under the routine*, are imputed to him who has the courage to recur to new measures. Thus of two cases of advanced consumption, let one be treated with plenty of physic; let a modified atmosphere be adopted in the other; if both terminate fatally, the event in the first instance shall be imputed to the disorder; in the second to the new scheme. Hence those diseases against which society ought to combine all its forces of wealth and science, have no auxiliary so for-

* By persons, who, seeing the benefit actually arising from residence with cows, were desirous that no handle should be given for that sort of declamation, which occupies the idle and the shallow at a place like Clifton, I was warmly reprobated for having to do with cases such as Nos. III. and VI. Doubtless the wheels of life were here broken, and it was useless to apply oil to the fragments. But two principles should be held in view by medical men: 1. To give a patient every possible chance, and even to supply him with a support to rest his hopes upon. 2. To ascertain (what can never be predicted) the limits of every medicinal power.

midable as our professional routine. As long as this shall maintain its prescriptive right; and it shall be a reproach to fetch the necessary means of health from the remotest corner of nature, if there they can be found, so long will great improvements in the art of medicine be prevented, because fear of ruinous censure will depress the talents of the medical philosopher to the level of those of the medical intriguer. And as to the consumptive, it will make little difference whether they be confided to the sole charge of the nurse, or the doctor be joined to her as an associate. The annals of mankind would offer no example of merit more transcendent than his upon whose tomb it might justly be inscribed:

H. L.
A PHYSICIAN,
WHO HAVING MAINTAINED
A LONG STRUGGLE
AGAINST MEDICAL ROUTINE,
AT LAST
SUBDUED THAT HOMICIDE MONSTER,
AND CONCLUDED HIS LABOURS,
BY GIVING
INVENTIVE GENIUS
THE FULL FREEDOM OF THE MEDICAL
PROFESSION.

The advantage to the patient from living in an artificially heated room at home, deserves to be

compared with a residence in Portugal or Madeira. If invalids would go to Egypt, or Bengal, or the West-Indies, I should prefer due warmth with freedom of motion to confinement. But the climate of Portugal * is either so variable or cold, and that of Madeira in fact so little salutary to the phthical, that I should have no hesitation, in my own case, in preferring the regular artificial heat that can so easily be commanded at home. Whether heat excited by the sun be not preferable to the artificial, was a scruple started by Mr. Billingsley. It has been answered by his own experience, as will be related below, as well as by that of others. The article of *economy* speaks for itself. The comforts of a Lisbon residence are pretty well understood; though whether at large in Portugal, or closetted in a cow-house, the feelings of convalescence would render either situation supportable.

The *degree* of benefit arising from artificial warmth, in these consumptive cases, cannot be assigned. It was occasionally evident enough, that a certain temperature was indispensable, as without it the patients became stationary or lost ground. Conversely it was proved in Mrs. Finch, that atmospheric air, merely heated, was inadequate to relief.

* Essay on Consumption. To the proofs that are there given, many additional are now in my possession.

The principle on which I conceive the cow-house vapours to have acted is well understood in the treatment of ulcers; certain applications disposing them to heal. And what way is there, upon which we can depend, of making applications to pulmonary ulcers, but that which gasses or vapours offer to us?

I still presume that the presence of the cows is by no means essential; nor do I doubt, but that in some states of pulmonary ulceration these vapours will be hurtful. When they arose in great quantities from stirring the fermenting materials, they were found to be so. It will be a strong recommendation to the further trial of the power of these vapours, if my statement should convince a certain number of patients or practitioners, that upon them depends the sole benefit. Vessels containing the fermentable substances could easily be introduced into a warm apartment; the former as easily be regulated by covers, and the vessels removed entirely, the moment the exhalations appeared to disagree.

I regret having no report to make on the subject of that complaint, which, throughout the cold season, proves the scourge of so many of our countrymen advanced in life; I mean the *catarrhus senilis*, which shews itself in a most distressing cough, and a large expectoration of mucus. I am certain

that an effect upon the mucous membrane, which should amount only to slight alleviation of the symptoms of consumption, would completely suspend those of *catarrhus senilis*; and from all the facts taken together, I am not afraid to promise sufferers from this complaint most essential benefit. The confinement need not be rigorous; they might freely enjoy the fine gleams of winter; and exposure during foul weather, is not enjoyment, but its opposite. Without doubt, when men shall cease to be content with receiving slaughter, famine and pestilence, as the recompence for their pernicious admiration of political adventurers, and the power of society shall be employed for the good of society, edifices, putting to shame the monuments of ancient art, will rise in every inhospitable climate; and these *conservatories of old age*, scarcely subjecting their inhabitants to privation, will afford them complete shelter against the inclemencies of the seasons.

Cases where the use of medicine and artificial warmth were begun at the same time.

JOHNS BILLINGSLEY, Esq. of Ashwicke Grove, Somersetshire, had complained of a short cough, in the beginning of the winter of 1799, and 1800. This continued, and began by degrees to be accompanied by feverish feelings. Afterwards expectoration took place. All these complaints went on, increasing in regular progression, till March, 1800, when I first saw Mr. Billingsley. I found him, in the evening, with a pulse at about 120 in a minute, complaining of cough, pains in the chest, difficulty of breathing, chills, heats, and most profuse nocturnal perspirations. The expectoration amounted to seven ounces in twenty-four hours, and consisted of purulent matter, largely intermixed with mucus. Mr. Billingsley was excessively reduced in strength, and much emaciated.

Had it been left to my choice, as influenced by my expectations respecting the event, I should certainly have declined the care of a person, to whom the eyes of people in this part of England are so generally turned.

To his two medical friends, Mr. Perkins and Mr. Hill, as also to his family I stated, that he ap-

peared to me verging fast towards the last extremity, if the case were not already desperate.

To himself, at their desire, I explained as well as I was able, the nature and probable comparative efficiency of the measures that might be adopted for his recovery. I told him that I had no expectation from any medicine but digitalis, occasionally assisted by other articles of the *materia medica*; but that I was by no means willing to trust to medicine alone. The auxillary means I had in view were of two kinds: a room, simply heated to above 60° ; or a heated atmosphere, impregnated with the exhalations of the cow-house. A third, and in my opinion the only plan remaining, was a long sea voyage. This Mr. Billingsley at once absolutely rejected, adding, that he should prefer the tempered room; but apprehended that he was too weak to bear removal to Clifton, a distance of about twenty miles.

It was finally concluded that the attempt should be made, and that a room should be fitted up, nearly as described in case VI.; only that in the present instance two communicating rooms were chosen in preference to one; the stove supplying hot air being placed in the bed-room, and a common fire occasionally made in the sitting room. The stove, as in all the other cases, except the cow-house cases, was one of those called *empyreal* stoves.

It was twelve inches-square; and the expence of boring a hole to receive the air-pipe, and closing the apertures in the door, added to eleven guineas, the original price, amounted to about fourteen pounds. It was found easy to keep up the fire all night; and during the whole twenty-four hours, the most perfect equality of temperature could be maintained. The heat most agreeable to Mr. Billingsley was from 60 to 65°.

He began to take ten drops of saturated tincture of digitalis, twice a day, two or three days before taking possession of his apartments. In nine days the chills, heats, nocturnal perspirations, and cough were sensibly abated. The appetite had greatly improved. The pulse had fallen to about 90 in a minute.

In a fortnight Mr. Billingsley found himself much stronger. He never took for a dose above eighteen drops of the tincture of digitalis, and sometimes only two doses a day; to the last of which was usually added from twelve to twenty drops of the tincture of opium, or corresponding quantities of camphorated tincture of opium.

It may be remarked, that Mr. Billingsley's strength, appetite, and spirits, improved at an equal rate. At no time did he experience the smallest disagreeable sensation, either from his confinement or his medicine.

When he had been under this treatment for a little more than three weeks, he proposed to go to Ashwicke Grove, on condition that the weather was fine, for a single night. The reason for this journey being important, my scruples were overruled. He performed it with the most perfect ease and impunity; and from that time took an airing during the funny part of several fine days.

This is an important fact, as it shews that the danger is less than might be apprehended, from passing into a lower temperature from a higher, to which a person with a diseased breast has been for some time accustomed.

Such precautions as warming, to an unusual degree, the apartments which might be used for sitting or sleeping, were of course employed: and the cooler air after sunset was avoided. Still, however, Mr. Billingsley, during his absence, must have been immersed in an atmosphere 20° colder than that of his apartments.

After a confinement of about six weeks, the hectic fever being entirely subdued, the cough and expectoration much reduced, Mr. Billingsley quitted his confinement. He persevered for several weeks longer in the use of digitalis, and entirely recovered in all respects. The recovery, as far as the experience of near a year, including a whole

winter passed without any particular precautions, can justify an opinion, appears to be permanent.

No inconvenience whatever was felt from exposure to the common atmosphere.

A lady, twenty-two years of age, with narrow chest, prominent shoulders, and hereditary disposition to consumption, after a short cough of many weeks continuance, and slight irregular feverish feelings, began to expectorate purulent matter, and to complain of considerable shiverings in the evening, succeeded by a dry burning skin, and profuse night perspirations. She could not lie on one side, and her flesh and strength declined with the greatest rapidity.

Fearing that digitalis alone, which had been tried, but as I thought not with sufficient attention to the dose in a delicate constitution, would fail to produce a cure, I insisted upon the necessity of a tempered atmosphere; and my remonstrances succeeded.

By means of four drops of tincture of digitalis, thrice a day at first, and afterwards from six to eight, (beyond which I never could rise, without languor, inappetence, or sickness) the progress of the disease was sensibly arrested in about three weeks. In five weeks the hectic fever had nearly subsided; the expectoration and cough were great-

ly lessened; and by actual measurement of the arm, an increase of flesh was ascertained.

In three weeks more the complaint was so far abated, that the patient spent the greater part of the fine days of April out of doors; and by degrees returned to the use of common air.

All the symptoms of the disease disappeared, and they have not since returned.

Two other patients, under the same treatment, experienced the same happy effect. It was remarked by all these patients, that the stillness of the air became much more agreeable than the currents, and the unequal application of the heat from a common open fire.

The most agreeable temperature was found in these latter instances to be about 65° .

A gentleman of black hair and dark complexion, who had lost several brothers and sisters by consumption, and was himself greatly reduced by that variety of the disease which is called *galloping consumption*, entered into temperated apartments, at the same time taking digitalis, with opium occasionally. The heat of the rooms, in conformity with his sensations, was from 66 to 70° . But there took place no abatement of the hectic fever, or of any other symptom. The disorder continu-

ed to hold exactly the same progress as before his confinement: and the case soon terminated fatally.

This gentleman had it in his power to pass into an artificially heated cow-house, as before described; and for several days he sat in it many hours, but without the smallest relief.

A tall, slender female, of conformation strikingly phthisical, and serophulous complexion, had for four years laboured more or less under complaints of the chest. From the account which I received I concluded, that tubercles had existed in the lungs during this whole period: but that from accidental causes they had fluctuated, as may often be observed, between an active and a dormant state.

For an entire twelvemonth before I was consulted she had been under the care of various medical attendants, Irish and English. For four months she had expectorated purulent matter, and was in all respects hectic and reduced. She likewise had a continual tendency to diarrhoea, which probably was the reason why the night sweats were not constant or profuse.

The latter half of September, 1800, and the beginning of October, I treated her with gentle doses of digitalis, in conjunction with opium, and the chalk mixture, and such other *astringents* as the state of the bowels perpetually demanded.

This plan was altogether unavailing. The beginning of the third of October she removed into temperated apartments. In these the chills and heats, which were the hectic symptoms by which she had been principally affected, soon abated. The pulse, from 112, sunk to between 70 and 80°. The bowels became regular. In three weeks the expectoration was reduced one half, and the night sweats seldom appeared. She felt a very manifest increase of strength; and those who saw her agreed in opinion that she had gained flesh.

About the middle of November this lady, her husband, and a servant maid, suddenly complained of head-ache and feverish symptoms. There was at this time, in the same house, a person ill of a contagious fever; and to infection, from this source, the three persons above mentioned imputed their attack, which in neither case assumed the form of continued typhus, though the symptoms of the servant, in particular, were such as we observe in typhus, cut short by emetics.

From this period my consumptive patient slowly declined; and in January she died, without suffering much, except at times during the latter stage, from shortness of breath.

Mrs. H. a lady of fair florid complexion and light eyes, came under my care early in autumn,

1800, with advanced tubercular consumption, as distinctly marked as in any of the preceding cases. By guarded doses of tincture of digitalis, largely combined with tincture of opium, and occasionally of columbo and squills, in a way hereafter to be described, the complaint was considerably reduced, the hectic symptoms now not appearing at all, or being slight; the expectoration reduced from six ounces in twenty-four hours to one and a half.

Under these favourable circumstances, the sudden death of an absent only child produced a temporary indifference to life, and such a desire of leaving my neighbourhood, as could not long be resisted.

During the short remainder of the patient's continuance under my immediate care, I prevailed upon her not to abandon her medicines; and the storm of sorrow was not observed to increase, or disproportionately to diminish the consumptive symptoms. They continued, however, regularly to decrease till she left Clifton.

The journey home, which occupied between three and four days, took place in unfavourable weather. Mrs. H. was for at least a fortnight without medicine; and it appeared from the intelligence transmitted to me at the end of this time,

that the complaint had risen again to nearly its former height. My advice was to continue the same plan of medical treatment, with all its variations; and above every thing, to retire for the whole winter into apartments, artificially warmed to between 60 and 70°.

The medicines were resumed upon this recommendation, and very diligently continued. To the part of my advice respecting temperature, that sort of attention was paid which reminded me of the common saying about half measures.

From this time the patient fell under the care of Mr. Bryant, a veteran practitioner of South Molton, in Devonshire. Through him I learn, that the apartments in which Mrs. H. lived were only common apartments, and, in fact, much inferior to common apartments in general, for the house being an old one, much cold came in through the windows; in consequence of which, the patient was, at times, seized with catarrh; and, as Mr. B. informs me, "every increase of the complaint hath closely followed wet stormy weather." On the 6th of February, 1800, this gentleman reported "the cough much lessened; no night sweats; bowels regular; menstruation proper; spirits and appetite good; expectoration less and less prevalent. She has gained flesh. Pulse seldom above 84. Two grains and a half of opi-

"um,"* he continues, "procure a sufficient quantity of sleep. The tinctures of digitalis and opium, in infusion of columbo, have been given, so as to occasion a slight nausea in four or five days; then discontinued till the nausea went off. She has not exceeded six drops of the tincture for a dose. Let this case end how it will, I will venture to assert, that your method hath done more for Mrs. H. than all the old plans put together; and I verily believe, if the whole of your system was complied with, a great proportion of pulmonary affections would be cured." April the 21st I was informed, "that latterly, from six to eight drops of tincture of digitalis and opium, mixed in the proportion of 120 drops of the former to 60 of the latter, had been taken three times a day, with two and a half grains of opium at night; that the cough was nearly gone; that the expectoration was little, and scarcely purulent, with considerable increase of strength and spirits; good nights; pulse about 86." Since the 13th instant, however, the symptoms have increased; hence the termination of a case, so far advanced above eight months ago, and which, in a patient of feeble habit, has ever since exhibited so remarkable a conflict between medicine and disease, continues yet in some measure uncertain.

* I had requested that the opium might be gradually raised to this dose.

One asthmatic patient under my care confined himself for a few weeks in temperated apartments, not very conveniently fitted up, as from the disposition of the rooms the effect of the stove did not sufficiently reach the bedchamber. No beneficial effect followed.

I am sorry I have no cases to relate of *catarrhus senilis*, or that affection of the lungs which renders old people in winter so liable to a constant severe cough, and profuse secretion of mucus. My observations, I think, justify me in recommending warmed apartments in this disease with the greatest confidence. The confinement need not be close. The foregoing examples sufficiently shew that the open air might be freely enjoyed during the best part of the milder days of winter. To be exposed to severe weather would not be enjoyment, but its opposite.

From sufferers of this class it would be no valid objection, that so large a proportion of the preceding cases terminated fatally at last. An effect, amounting to very slight alleviation in consumption, would give a person labouring under *catarrhus senilis* the feelings of health; and perseverance, for one or two winters, would probably go far towards removing the complaint. Besides, in regard to consumption itself, these cases are, in reality, more encouraging than would appear without

attention to the degree of disease. All the patients had been long ill; they had already baffled the persevering efforts of medical practitioners; no considerable relief was expected for them, much less a cure. They are not to be considered as taken promiscuously from the main body, but as belonging to the forlorn hope, of the consumptive.

I expected to hear complaints of disagreeable smells from the iron stove; and had this been the case, I should have recommended rusting the outside by a weak acid, by which I should have expected to correct, in part, the unpleasant effect arising from the gas given out by cast iron at a low temperature. For the prevention of the smell arising from combustible particles that are apt to settle upon the stove, preventing their accumulation seems the only effectual means, unless a case were to be contrived for the body. But these inconveniences were not felt.

At so high a temperature, as that to which my patients were continually exposed, the increase of hectic fever might be apprehended. But the first and greatest effect appeared, in most instances, to be a reduction of the whole hectic symptoms. Whether by prevention of the cold fit, the associated states were also prevented, as seems to be the case in vernal intermittents from the increasing

warmth of the season, I leave to the decision of others.

In all situations appropriate measures should be taken to counteract the hectic febrile movements. In the cold fit, where that is distinct, hot water with spice and opiates, (as camphorated tincture of opium) should be administered on the very accession. In the hot part of the paroxysm you should have recourse to the affusion of tepid water, or to the immersion of the hands and feet, when burning, into cold water for a short time. But where the heat of the body is greater than that of the extremities, it is better to keep the hands and feet warm, and to take successive draughts of cold water, or cold saline mixture, in an effervescent state. *Small* portions of ice cream or water ice, I think preferable. Two teaspoonfuls of ice will often be sufficient. The whole of one of the glasses, usually sold at the confectioners, is often sufficient to superinduce chilliness. Unmelted jelly, prepared without wine, is no contemptible substitute for ice. During its solution, it produces the same effect in an inferior degree. Taken when a patient has felt cold, it has appeared to me to bring on rigors; and, according to a rule of general application, it should always be taken warm, when the patient feels cold and *vice versa*. So true is it, that the merest trifle is, in some constitutions, sufficient to turn the balance of action!

According to my experience, an uncertain state of the bowels need not be regarded as an obstacle to the use of cold water or ice. Patients have appeared never less inclined to diarrhoea than during the hot fit; and if care be taken not to reduce them below the natural standard, little hazard will be incurred. And I do not perceive, why applying cold externally, should be much less injurious in this respect.*

Removal into a colder atmosphere will subdue the heat of some fever fits; getting out of bed for a short time amounts to the same thing. Nor is there danger of taking cold, or of any other mischief, provided the means of refrigeration be not carried to an extreme.

* Probably the tertian type of hectic fever sometimes arises from certain accidental coincidences between a chilly state and the application of cold, or cold producing means.

The first part of the paper is devoted to a general
 consideration of the subject, and to a statement of the
 objects which it has in view. It is then divided into
 three parts, the first of which is devoted to a
 description of the nature and extent of the
 disease, and the second to a description of the
 symptoms which it produces. The third part
 is devoted to a description of the treatment
 which is to be resorted to in the various
 stages of the disease. The paper concludes
 with a summary of the principal points
 which have been discussed.

ON THE
POWER AND AGENCY
OF
DIGITALIS.

ALMOST two years ago, in the first edition of a popular tract, I said: "*In cases of pulmonary disease, where the presence of tubercles was indicated by every symptom, and where they seemed ready to break out into open ulcers, I have verified the efficacy of digitalis; and I daily see many patients advancing towards recovery, with so firm a pace, that I hope consumption will henceforward be as regularly cured by the foxglove, as ague by the Peruvian bark. Could we obtain a single auxiliary for the foxglove, such as we have in many substances for the bark, I should expect that not one case in five would terminate as ninety-nine in an hundred have hitherto terminated. But I believe a majority of cases will yield to simple foxglove. It is evident that no new cases need be suffered to advance*

“beyond the first stage, without the application of
 “this medicine ; and few into it.” Could frequency of quotation give importance to the sentiments of a medical writer, that part of the preceding passage which is distinguished by Italics, might, for its standing, vie with any aphorism of Hippocrates. But it has commonly been misquoted at second or third hand, and to this day, in spite of alteration in a subsequent edition, it continues to be held up to public animadversion as a fally of extravagance.

In regard to the frequency of successful exhibition, the author never dreamt of comparing digitalis to bark. He had merely in view the result of its continued administration, where it *does* succeed ; and perceiving that it would have been better to contrast its gradual operation (which alone he then had in view, as is evident from the words “with so firm a pace,” and the whole context) with that of mercury in venereal complaints, (as somebody, he believes, had done before) he corrected himself as soon as he had opportunity. The proportion of cures is quite a different point ; upon which he expresses his belief immediately afterwards. And when cases of tubercular consumption, not advanced to the ulcerative stage, are comprehended in the account, (a condition which he expressly includes in his estimate) and no peculiar disadvantages

ges of situation in life counteract the remedy, he still thinks that he has not overrated its virtues.

Within three years I have seen many scores of phthifical invalids from among the poorer classes. I have always had, close at hand, a number of opulent patients of the same description. Each class has, in fact, lain before me, almost as conveniently for comparison, as the objects of his attention lie before a scholar occupied in collating a set of manuscripts. In general, where I had all possible evidence of the existence of tubercles, the exhibition of digitalis has been perfectly successful. If I specify that it has succeeded in three such cases out of five, I believe I much underrate the proportion of favourable events. With regard to the poor, who apply for relief in sickness, there exists a perpetual cause of uncertainty. Their attendance slackens as their health improves; and they are apt to disappear upon complete recovery; nor is it always easy to find them out by enquiry. In the richer class I have found the proportion of fortunate cases more considerable than I have stated; and where digitalis alone fails, success is sometimes obtained by helps, of which I shall speak before quitting the subject.

When ulceration has succeeded to interior disorganization, the greater difficulty of cure has appeared to me very strongly marked. Why this

should be, is easily comprehended from general analogy: its full illustration, by tracing the diversity of animal actions step by step, I relinquish to those who may think they understand the nature of phthical ulceration, and the effect of the particular situation which the ulcers occupy. Entire failure has appeared to me, on the one hand, most frequent in the neediest poor; and on the other, in those females of higher life, who, from transmitted feebleness, and the want of air and exercise, of wholesome hunger and digestion, appear more like the shadows of human beings, than substantial compounds of flesh, blood, and bone. And as one mean for the conciliation of contradictory testimonies, respecting the effect of digitalis in confirmed or ulcerated consumption, I adhere to the opinion expressed in the *West-country Contributions*, 1799, pp. 534—5, viz. that robustness of constitution is peculiarly favourable to the action of digitalis in this disease.

Of this opinion I find the amplest confirmation in some reports by other physicians, and particularly in a very interesting paper from Dr. Magennis, of the R. N. Hospital at Plymouth, containing an account of seventy-two cases of incipient or confirmed consumption in seamen and marines, treated with digitalis. Of these it appears that twenty-five, with ulcerated lungs, recovered; and fifteen from the

stage previous to ulceration. Moreover, thirteen of the seventy-two, in an early stage of ulceration, were discharged, greatly relieved; and nine in the previous stage. In ten cases the medicine failed; but in some of these it gave considerable relief. In some it was continued but from ten days to three weeks; in others a cure seemed nearly certain, but was judged to be prevented by the setting in of cold weather. So that one is almost tempted to suppose, that by the use of auxiliary means, and by subsequent care, almost every one of these invalids would have been radically cured of phthisis.

Of the cases described at large in this paper, some particulars are very striking. J. Smith, for example, is said to have been "reduced to the lowest state of debility, although twelve months before of Herculean powers. The moment I saw this man, I pronounced it a lost case." The expectoration was a pint and a half in twenty-four hours. He had every symptom of the disease "in its last and most aggravated stage." Yet in about six weeks he was discharged, cured.

Of James Wallace's recovery, the most distant hope was not entertained. The physician considered him as "in a cadaverous or semiputrescent state at the commencement." His disease seems to have been forming for some years. He was

recieved into the hospital on the 14th of September, and discharged, cured, on the 28th of November following.

Of William White, the author asks, "why he
 " was kept so long on board ship, in such a deplorable
 " state?" adding, "that soon after his reception
 " he was invalided as an hectic patient, there
 " being little hope, at the time, of his ever leaving
 " the ward in a living state." (*P. & med. Journ.*
v. 201. & s.) Yet this patient recovered.

Between seafaring men, and the mass of phthical invalids from families above the necessity of labour, there is evidently no comparison in point of bodily vigour. Again, marines and sailors have, I suppose, over the unembodied poor, the advantage of a better supply of the necessaries of life, especially in the cannibal times which have been brought upon this country. In naval hospitals they are doubtless better attended and better sheltered, than the lowest order in their oftentimes wretched abodes.

As far, therefore, as these facts admit of any conclusion, I think myself justified in repeating, what I have of late years been constantly endeavouring to enforce, that as a person is more robust, he will have the better chance not only of escaping consumption, but also of being cured of that disease by digitalis.

From the cases which have fallen under my own notice, I shall select such as I think remarkable on account of some circumstance relating to the patient, or the degree of disease, or the previous treatment. I forbear relating numerous instances of the power of digitalis in incipient or unconfirmed consumption. The particularly severe case of which I gave an account in the *West-country Contributions*, p. 537, yielded perfectly to digitalis in tincture taken in water, without an atom of any other drug; and now, at the end of two years, the patient is well. In three young women, I doubted whether the complaint was not chlorosis; but finding preparations of iron aggravate the cough, I prescribed digitalis with perfect success. Sometimes I have found lymphatic glands swollen and sore on the outside of the thorax, at the time when I judged pulmonary tubercles to exist in an active state.

The infant boy, (four months old) of Adjutant Sweeting, of the Somersetshire supplementary militia, had been exposed to severe cold in travelling. The child, in consequence, had a cough, which went on increasing for three weeks before I visited it. Its mother now complained of its having a severe cough, with wheezing, and regular daily successions of cold, heat, and sweats; and of its not being able to bear a particular decumbent posture,

without strong fits of coughing. She added, that it was sensibly falling away. The pulse had an immeasurable velocity.

The well known existence of tubercles in the lungs of infants, and the perfect regularity of the hectic fever in this child, (a circumstance not belonging to catarrh) led me to consider this as a case of true phthisis. I advised tincture of digitalis, in the quantity of half a drop at first, three times a day; and as the infant bore this perfectly well, I doubled the dose. In four days the hectic fever was diminished; and in a week the cough had become manifestly less violent. The pulse also was greatly reduced.

Bilious vomiting was not unfrequently produced, as appeared by the medicine; but it did not occasion that continuance of deadly sickness which adults experience,* for the child's appetite seemed improved in the intervals. The tincture was of course, suspended when the sickness was severe.

In five weeks, under the continuance of this plan, the disorder was removed. At its close aphthæ became very troublesome, but disappeared after the application of honey of roses, with borax. A year afterwards I had an opportunity of learning

* Adults, however, will sometimes eat with appetite between the fits of sickness, and even while nauseated by digitalis.

that the child had suffered no relapse; and now, at the end of two full years, I have reason to believe, that it has continued free from pulmonary disorder.

Two other children, under a year old, and one of three months, affected with symptoms exceedingly similar, have fallen under my care; and equal success attended the same plan of treatment.

DR. BRIGGS'S CASE.

Paper put into Dr. Beddoes' hand, by Dr. Brigs, on their first interview; Dr. Brigs appearing desirous to avoid any exertion of the lungs.

“ DOCTOR BRIGGS arrived from Columbo, island of Ceylon, at Madras, the 29th of March, 1799, in strong robust health, not having known one hour's indisposition for the four years he had remained at Columbo. The temperature at Columbo varies through the year, from about 70 to 85 degrees, Fah. thermometer. About the middle of April the southerly wind set in strong at Madras. This is a damp warm wind, and of a most relaxing nature; it raises the thermometer to 92, at which degree it stands night and day. I soon began to feel the effects of this wind: loss of appetite, loss of rest, spirits, and an unaccountable irritation of the nervous system. These symptoms went on for several days, when I discovered an extraordinary degree of feverish heat; to relieve which I kept the bowels free, and diluted plentifully. In this manner I struggled on during these winds, which lasted more than a month; and instead of being succeeded by rain,

“ which is usual in that climate, the wind came
 “ from the westward, and blew violently hot until
 “ the beginning of June, (thermometer from 98 to
 “ 104 degrees) when it rained a few refreshing
 “ showers, which reanimated me. The feverish
 “ heat soon subsided. My appetite in some degree
 “ returned. I continued mending in health daily
 “ until the 13th of June. I went to bed at ten
 “ o’clock, slept till twelve, when I awoke with some
 “ blood in my mouth. I was somewhat alarmed
 “ at this symptom, as it brought to my recollection
 “ having burst a blood-vessel in the right lobe of
 “ my lungs, in Nov. 1786; at which time I lost
 “ about thirty ounces of blood in an hour or two.
 “ This accident was occasioned by a violent fit of
 “ sneezing; and I never had the least return of it
 “ until the 13th of June, 1790. On the 14th in
 “ the morning I lost a few ounces of blood by the
 “ arm. At five o’clock this evening the bleeding
 “ returned from the lungs, in quantity about five
 “ ounces. No pain, no exertion. From this pe-
 “ riod to the 16th, twelve o’clock at night, I lost
 “ 150 ounces of blood. During the last twenty-
 “ four hours I drank six bottles of Ruspini’s styptic;
 “ and this evening, at six o’clock, alum was
 “ administered freely with the styptic. The bleed-
 “ ing ceased about two o’clock in the morning of
 “ the 17th, and never returned. My pulse, for

“ the last two days, varied between 129 and 140,
 “ which continued, with a violent degree of fever-
 “ ish heat, for three or four days, when I began
 “ gradually to amend in health and strength. My
 “ whole sustenance for five weeks after the acci-
 “ dent was bread panada. I embarked on the 9th
 “ of August, and continued to gain ground daily,
 “ until my arrival at St. Helena. I landed at
 “ Cork on the 14th of January, in good health,
 “ and stout. Travelling through Ireland and Wales
 “ I caught cold, which threw me back a little; but
 “ I soon regained what I had lost, on my arrival
 “ in London.”

*On Dr. Briggs's departure from the Hot wells, he drew
 up the following minutes for publication.*

TUESDAY, March 4, discovered I had caught
 cold, dined out, and unfortunately sat in the draft
 of the door. Eat a hearty dinner; drank half a
 dozen glasses of port wine, and went home toler-
 ably well. Went to bed about twelve o'clock.
 Shortly after was troubled with an incessant teaz-
 ing, tickling cough, and abundant frothy expecto-
 ration. Supposing it was occasioned by indigef-
 tion, I excited myself to vomit, and brought up the
 whole of my dinner, wine, &c. Drank a glass of
 cold water, and slept through the night. 5th, In

the morning the cough was troublesome, with considerable expectoration, and continued so all day. I remained at home by myself, and instead of dinner, drank three cups of fanative tea, (which I always use) and eat a thin slice of dry toast. This night took two pills, containing three grains of calomel, one-third grain of tartar emetic, and one and a half grain of opium. Restless night, with considerable heat and cough. 6th, In the morning took one pill, containing one and a half grain of calomel, one-sixth grain of tartar emetic, and three-fourth grain of opium. Cough troublesome, and appetite failing. Dined by myself on broth and one piece of toast. Cough very troublesome, and a most violent head-ache when I coughed, occasioned, I believe, by the opium. This night took a mixture of sweet oil, honey, and lemon juice, boiled together, which eased the cough. Restless feverish night, and made very little urine for the last forty-eight hours, with much sediment. 7th, Cough not so troublesome; expectoration considerable; no appetite for breakfast; eat some cod-fish for dinner, and relished it; drank two glasses of port wine; went to bed early, and took the oily mixture. Feverish night. 8th, No appetite for breakfast; cough moderate during the day; eat calve's head for dinner; drank two glasses of wine; went to bed early, and began a mixture of vinegar

of squills, honey of roses, and lime water; took it every four hours; it eased my cough, and made expectoration easier. Fever at night. 9th, No appetite for breakfast or dinner; repeated yesterday's medicine; felt so much better that I proposed going out. When the carriage came, it rained, and I remained at home. Coughed very little, but felt a sudden uneasiness in my right chest. It appeared to me as if the right lobe of my lungs had adhered to the sternum and was forcibly separated. This occurred about three o'clock in the afternoon, and about seven o'clock in the evening, on coughing, I expectorated blood. Repeated the squill mixture; had a very restless feverish night; made very little urine; coughed hard, and in the morning found I had expectorated a considerable quantity of phlegm and clotted blood. Called in the advice of Dr. Farquhar, who directed me to lose five ounces of blood, and to apply a large blister to my chest. On being bled, I observed my blood was highly inflamed, so I lost eight ounces. I drank a solution of Epsom salts \bar{z} i in a pint of infusion of red rose leaves; and had infusion of rose leaves, with syrup of poppy \bar{z} ii for a common drink. Went to bed early; had a very feverish night; pulse very quick (120.) 11th, In the morning dressed the blister, and lost twelve ounces of blood from the arm; more inflamed than yef-

terday ; cough very troublesome ; continued the medicines as yesterday ; no appetite. This evening I felt chilly ; went to bed early ; had a very restless night ; fever ran high ; pulse 116 ; made a very little turbid water. 12th, Dr. Farquhar called, approved of the second bleeding, recommended to continue the medicines, and prescribed five grains of calomel to be taken at bed time. A very restless feverish night ; calomel produced no effect. 13th, Took two and a half grains of calomel in the morning, repeated it in the evening ; no visible effect. Again in the evening went to bed at six o'clock ; fever ran high ; cough troublesome ; expectoration continues discoloured ; no appetite. 14th, Repeated two and a half grains calomel in the morning ; had two moderate motions ; very little urine ; cough troublesome ; no appetite ; cold fit commenced at two o'clock, P. M. ; went to bed at five, when the fever succeeded most violently ; pulse above 120. 15th, Saw Farquhar ; continued the infusion of rose leaves, &c. ; cough very troublesome, and expectoration discoloured. Regular succession of cold and hot fits ; little rest ; loss of strength and flesh, and no appetite. 16th, Saw Farquhar, who prescribed half an ounce of salt of wormwood saturated, to be taken in two quarts of barley water. All symptoms as bad as yesterday ; urine increased in quantity, and clear. 17th, This

night went to bed about five o'clock, with a violent cold fit, and most cruel pains in the right lobe of my lungs; violent fever, and suffered excruciatingly on coughing; expectoration highly discoloured; continued the saline mixture; saw Farquhar, and told him I was determined to leave town for Bristol. 18th, At one o'clock, P. M. left town, being carried down stairs, and put into the carriage. Arrived at Slough at five P. M. much fatigued. Went to bed with a shivering fit, and some painful affection of the lungs and shoulder; took a glass of very hot water, with a scruple of nitre, and drank plentifully of saline mixture during the night. The only nourishment I had taken for the last four days, was a very small quantity of arrow root. This night was, by far, better than any for many nights past. I perspired profusely; to encourage which I continued in bed forty hours. And the night of the 19th, was tolerable; coughed less; and though the shivering came on as usual, upon the whole I felt myself better.

20th, Left Slough, and reached Speenball about five o'clock, much fatigued. Went to bed immediately; had no cold fit; drank plentifully of saline mixture, and had a tolerable night. Pulse from 115 to 120. 21st, Reached Chippenham, much fatigued, and went to bed; a tolerable night; coughed less; expectoration considerable,

and mixed with blood. 22d, Reached the Hot Wells, went to bed early, much fatigued. This day I eat the leg of a chicken, with something like appetite; had a good night; drank freely of saline mixture. 23d, Cough moderate; expectoration considerable, but free from blood; a good night. Monday March 24, called in Dr. Beddoes. When he saw me I was extremely emaciated, and had not the power, for many days previous to his seeing me, of speaking above a whisper, though my cough and feverish symptoms were considerably abated. No appetite, and great diminution of strength. Pulse between 110 and 112. Dr. Beddoes advised not to drink the Hot Well waters. He prescribed xx drops of tincture of digitalis three times a day. In less than twenty-four hours my pulse was reduced to 85. 25th, Had an uncommon good night; repeated the draughts, and the pulse reduced to 75. Cough moderate, and expectoration somewhat decreased; quantity of urine increased considerably. 26th, Dr. Beddoes discovered a variableness in my pulse, and repeated the draughts, with only ten drops of tincture of digitalis thrice a day. 27th, Good night, strength returning, and appetite increasing; pulse from 70 to 74; repeat draughts as yesterday. 28th, Good night, all symptoms better than yesterday; pulse 68; repeat draughts twice a day, with

tincture of digitalis drops xiii. 29th, Still improv-
 ing in every respect; continue to expectorate a
 considerable quantity of a thick glary phlegm, with
 ash coloured specks; pulse 68. 30th, In all re-
 spects as yesterday; cough entirely subsided; re-
 peat draughts twice a day. 31st, Continue getting
 better; pulse 76; repeat draughts, with sixteen
 drops of tincture of digitalis twice a day. This
 evening and night I found the pulse vary consider-
 ably, but never above 76. Night restless, felt my-
 self hot, and much lassitude. April 1st, Dr. Bed-
 does discovered a variableness in the pulse, and re-
 duced the tincture of digitalis to gtt viij bis die.
 2d, Had a very good night; pulse between 68 and
 74; repeat draughts twice a day. This day being
 very mild, walked on the terrace for a few minutes,
 and enjoyed the fresh air the first time since the
 4th of March. 3d, Entirely free of cough; ex-
 pectoration more moderate, though still glary, with
 ash coloured specks; pulse between 64 and 70;
 sleep uncommonly well; eat heartily of any thing
 three times a day; repeat medicines as yesterday.
 4th, Mending slowly; repeat medicines; pulse
 about 70. 5th, Ditto. 6th, Ditto. 7th, Repeat
 medicines, with tincture of digitalis drops vj twice
 a day. 8th, Repeat medicines, with tincture of
 digitalis drops x twice a day; pulse about 74; take
 exercise when the weather permits. 9th, Pulse re-

duced to 60; repeat medicines, with eight drops twice. 11th, Repeat medicine, with drops ix twice. 12th, Ditto. 13th, Pulse as low as 55; omit medicine. 14th, Pulse 74; x drops twice; strength returning, and appetite good. 15th, Walked up to Clifton, morning; and evening returned tired in the legs, breathing quite free; expectoration very moderate; pulse 70. After returning from my walk in the evening, pulse increased to 88: remain-quiet on the sofa for an hour, it fell to 74. Repeat medicines. 16th, Repeat medicines, with eight drops. 17th, Ditto. 18th, Ditto. 19th, Ditto. 20th, Ditto. I now considered myself as perfectly recovered: every hour increasing in strength and flesh. I continued the medicines for at least two months, and repeated them at an interval of two months for twenty-five or thirty days, then desisted two months, and repeated the digitalis again. In the month of February, 1801, I caught cold, and a violent cough was the consequence. It increased for eight or nine days, and was attended with violent spasmodic affection of the diaphragm. I again had recourse to the digitalis, in quantity two grains a day. In two or three days the spasmodic affection ceased, and the cough, in a very few days, entirely left me. Notwithstanding which, I continued the use of the digitalis for more than a month. I am now as strong, stout

and healthy as ever I was. I am fully persuaded that I owe my recovery to the digitalis, on both occasions. I shall ever gratefully acknowledge myself indebted to Dr. Beddoes, for his advice and unremitting attention to me during my severe illness.

JOHN BRIGGS, M. D.

Bath, *April 11, 1801.*

I do not know whether there will be any difference of opinion with regard to the title to which the preceding symptoms ought to be referred. I cannot conceive so much pain and fever without disorganization ; and, probably, tubercles had formed, or were forming. The case would surely have run on to a fatal termination ; for that alleviation which the journey produced, could not possibly, I believe, have been permanent ; and it was no more than often takes place, after a journey, in the most confirmed and most distinct cases * of tubercular phthisis. Dr. Briggs's report sufficiently announces the presence of cough, pain in the chest, hæmorrhage, breathlessness, and hectic fever, with

* I have often availed myself of this fact. Airings produce little or no advantage ; but some patients, by being made to travel as many miles every day as if they were on a journey, escape, in great measure, the cough and hectic fever.

expectoration. And this expectoration certainly appeared to me of a very suspicious nature.

The danger of a return of hæmorrhage was, I understand, insisted upon, as an objection to Dr. Briggs's removal from town. I believe such objection to be totally unfounded. In hæmoptysis and pulmonary hæmorrhages, I never observed any bad consequence from travelling in a carriage: on the contrary, I have repeatedly known these discharges to stop on a journey, though previously they had, for many days, occurred at least once in twenty-four hours.

MR. CHARLES TORIN,

ÆT. 22,

OF a thin habit and dark complexion, with dark hair, after spitting blood, was troubled with cough, purulent expectoration, chills, heats, and night sweats, with difficulty of lying down on one side, and a pulse at 112: he had lost flesh and strength progressively.

Before coming to the Hot Wells, in January, 1800, he had been under the care of a very fashionable physician, by whom he was kept on the most slender diet, and by whose order I understood

him to have taken acid and neutral saline medicines, without any benefit whatever. After examination of a patient so far reduced, in whose family also the disease under which he laboured had committed great ravages, I conceived very slight hopes of success. The tincture of digitalis was however prescribed, and persevered in, with variations of the dose, very nearly the same as in the preceding case. Opium was also given, in about the quantity of a grain at night.

The symptoms, in a fortnight, were sensibly less severe; the hectic fever, soon afterwards was entirely removed.

In six weeks Mr. Charles Torin left the Hot Wells, nearly restored to his natural strength, and with no symptom of his former complaint, except a little expectoration. This, on continuing the digitalis two months longer, gave way.

At the end of above a twelvemonth I saw my patient, perfectly well; and in this state he sailed for the East-Indies about a month ago.

MRS. J.

OF HARLEY-STREET, LONDON,

OF slender make, with brown hair and eyes, was seized with a discharge of blood from the lungs; after which, notwithstanding bloodletting,

and other means, she had a continued cough, with hectic fever, breathlessness, purulent expectoration, loss of flesh and strength. In this state she continued for four months, under the care of a very fashionable physician in London, by whom repeated small bleedings, and a strictly abstemious diet, with many medicines, were ordered.

Mrs. J. continued all this time in a state of miserable languor, her disease making sensible progress. At last she was sent to the Hot Wells.

Here, on a return of the pulmonary hæmorrhage, to the amount of about three ounces, I found her (in the last week of April, 1799) in the last stage of consumption, her feet having become œdematous.

The tincture of digitalis was ordered; she took it, under my inspection, in doses of from five to ten drops, and the disease gradually decreased. In five weeks Mrs. J. was no longer hectic. Of the complaints under which I originally found her labouring, there remained only a slight cough, with a small degree of expectoration, still apparently purulent. In a short time she left the Hot Wells, in a state of rapid convalescence; and continuing the digitalis, recovered a tolerable share of health. During that unfavourable summer (1799) and the ensuing winter, she took frequent colds, which, under the use of digitalis, went off without serious damage.

In the hot weather of 1800, she had a slight return of pulmonary hæmorrhage, and had recourse to the digitalis. No bad consequences followed.

In March, 1801, she has had a very severe catarrh; but it has gone off without more injury than would have taken place in a person not previously phthical.

This day, April 27, 1801, at the end of two years, I have had an interview with Mrs. J. and I can discover no vestige of a serious pulmonary ailment. There is, occasionally, a morning secretion of phlegm, among which are interspersed dark specks, such as we frequently see when the glands of the mucous membrane secrete more than its lymphatics absorb. Mrs. J. herself is of opinion, that her health and strength have regularly improved upon the whole, since spring, 1799.

In the reports of physicians concerning diseases of long continuance, it is a common fault that they drop the story too soon, leaving the intelligent reader uncertain whether the long established habits of morbid action may not have returned after the apparent recovery. I have kept a watchful eye over a variety of invalids, and I could relate a number of instances where success has been as striking and as permanent as in those immediately preceding. In delicate young women, affected

with tubercles not ulcerated, where my advice *to continue the remedy, with occasional intervals, for some months after the removal of the symptoms*, has been neglected, I have known relapses happen. But health has always been restored by the same means; and the disorder, as far as I yet know, finally subdued. Vigilance and exertion on a just alarm, are never more necessary than after recovery from any sort of phtisical ailment.

In the preceding cases, I not only permitted but enjoined a full diet. It gave me the greatest satisfaction, to hear from my patients, that they relished animal food twice a day, or once in the day and once in the night. The principle upon which I have advised this regimen is very simple. Since digitalis succeeds worst with the puny and the necessitous, and best with the robust and the well fed, I conceived that a generous diet, by bringing the constitution towards the most favourable state, would give the greatest chance of recovery. I supposed also, that simply tuberculated and tuberculato ulcerated lungs, are in a condition analogous to other parts affected with scrophula. As to the precautions which we find recommended on account of the structure and situation of the lungs, experience seems to me to shew, that they are highly exaggerated, at least, if not altogether chimerical. In addition to animal food, I often allowed

fermented liquors, but under certain limitations. If any particular fermented liquor, or if all kinds, produced coughing and heat of the skin, they were prohibited. I also recommended wine, (or wine and water) at any time rather than after a full meal. A full meal generally produces constitutional action enough, or more than enough, in which latter case, the quantity of food taken at one time should be diminished. In the forepart of the day languor and coldness will often occur, especially where an invalid fasts too long, and then vinous liquor may be taken with advantage.

There are, however, I apprehend, states of incipient phthisis, in which pneumonic inflammation coincides with the formation or progress of tubercles. In these states, the less severe pneumonia of weak subjects lays the foundation for slow tubercular consumption, just as pneumonia, in its more violent form, terminates, when ill treated, in consumption with large, quickly suppurating abscesses. Where such a complication as that above mentioned, exists, low living seems indispensable, and ought to be persevered in till that inflammatory action, which does not necessarily precede consumption, ceases, but no longer.

The following curious case is one in which I should consider a strict regimen as essential, even abstractedly from any affection of the liver. It was

laid before me in these terms, by Mr. Yonge, surgeon at Shifnal, Shropshire.

“ I write to request your advice for ———, whom I am come here (viz. into Middlesex) to see. His situation you will, I hope, be able to understand from the following narrative. I must first inform you, that two years ago the patient suffered under an attack somewhat similar to the present. He was left by it in a hectic state, less severe than that which he at present labours under. This (Feb. 19, 1801) is the twenty-fifth day since his disease commenced with symptoms of common catarrhal fever, not particularly violent. Under the treatment adopted they did not subside, nor much increase, during the first week. The cough was not severe, but, as he says, *short and frequent in the beginning, and the breathing contracted*. He was not bled. On Sunday, the eighteenth day, I arrived here, when the patient was in the following situation: Pulse 108; skin hot and dry; tongue of a brown colour along the centre, but yellow about the edges; urine rather high coloured; countenance adust, and his features contracted; short though not frequent cough, but the respiration quick, and performed within very narrow limits: yet he was at the same time, able to respire fully, and without pain. He was then (and had been almost from the commencement of his disease) accustomed

to have two or three purging stools every day and night, *very bilious* and offensive. His strength very much impaired, and his flesh wasted. In short, he appeared under circumstances which very commonly attend fevers of the low kind, and for which, I believe, this had been mistaken, bark having been tried, with opium, wine, &c.; and indeed one very deceitful symptom occurred, in the course, and at an early stage of this disease; this was a kind of action somewhat resembling subfultus, but in a greater degree than ever I have seen it in typhus; and the trembling of the hands was so great, that he was unable to carry a teaspoon to his mouth. The circumstances which seemed to oppose the idea of its being a low fever, were the absence of delirium; the strength of the pulse; regular exacerbations of the febrile symptoms, accompanied with flushed face and great heat, once in twelve hours; and the regular progress of the bilious secretion and discharge, without additional debility. I need not be more particular upon this part of the progress. The dismissal of wine and opium, and the use of small doses of calomel, has at once relieved the patient in some respects, and fixed our opinion. The disease has certainly, I believe, been purely inflammatory, and the chest and liver alone materially affected; but the former especially, and thence alone is danger to be apprehended.

“*At this time* the patient has *only one* stool a day, and still full of fresh bile, and *purging*. He coughs more, and expectorates mucus, with some apparently purulent matter, and a very slight tinge of blood. The respiration is still short, but without pain. Pulse varying from 108 to 90. He perspires towards morning and during his sleep; feverish exacerbations, with flushed face, once in twelve hours, and pretty regular; tongue clearer; heat of the skin considerable; strength and appetite improving. His state, in short, if we except the bilious evacuations, exhibits only decided and severe hectic, and impending phthisis. He is at present taking one grain of digitalis every eight hours, with ten of myrrh, and saline draughts every now and then.

“W. Y.”

I had nothing to recommend but a strict adherence to the exhibition of digitalis, with calomel, if the state of the liver should seem to require this, and attention to the heat of the skin. On the 27th of February I received the following intelligence from my friend, Mr. Yonge.

“On the night of that day on which I wrote last, our patient had an effusion of arterial blood from his lungs, and another about twelve hours afterwards, but not more than a table spoonful in

the whole. I bled him each time, to the amount of four ounces, and applied a blister to the sternum, where, however, he had no pain or uneasiness. The blood was curled, and with as tough a crust as I have ever seen. He has been since going on much better; and, I think, he bids as fair for recovery, as he did at least in his former illness."

A physician of great celebrity being now called in, advised the repetition of bleeding on any return of the hæmorrhage; but recommended the discontinuance of the digitalis. But partly from a consideration of its effects in this case, and partly from my earnest recommendation, this medicine was persevered in; "and I think," says my correspondent, "with advantage. The excess of bilious secretion has subsided, and the evacuations are natural. The patient is yet decidedly hectic; but all the symptoms milder, and the pulse slower."

The patient continued to do well, and in a fortnight undertook a long journey. "From the use of digitalis alone," says Mr. Y. "his convalescence was uncommonly rapid; and as fairly to be attributed to the remedy as in any case I have ever seen. At the commencement of our journey he was almost entirely free from cough; had no expectoration or night sweats; slept soundly,

“ and eat heartily. He then discontinued his medicine ; and in the course of four days travelling, instead of deriving advantage * from the exercise, he became worse, inasmuch as the night perspirations returned, the pulse quickened, and he again began to cough and spit. Since our arrival he has used the digitalis, and is again recovering.”

In the course of five weeks I learned, from the same authority, that under the use of digitalis “ the patient had become wholly free from every symptom of disease. His pulse only continued above the usual healthy standard ; and to a habit of uncommon irritability alone is this deviation to be imputed.”

By ever so gradual an increase, I have seldom been able to carry the dose beyond fifty drops a day of the saturated tincture of digitalis ; and patients in a more opulent condition, have, very often indeed, found twenty drops at two doses as much as could be borne, without oppressive lan-

* In a subsequent letter Mr. Y. says, “ I directed him to discontinue his medicine, in the expectation that travelling 140 miles might substitute a new and useful action in the system. But the event answered not my hope ; for without any deficiency of strength in the patient, or any untoward accident on the road, he gradually experienced some return of his colliquative sweats, cough and expectoration, with great acceleration of his pulse.”

guor, sickness, head-ache, or some other disagreeable effect.

Beside Mrs. Finch, a lady in the house of Peter Hoare, Esq. of New Park, Somersetsshire, another in that of Mrs. Bigge, of Benton Hall, Northumberland, and several other adult patients, have found a single drop, once, twice, or thrice a day, sufficient. In the lady at Mr. P. Hoare's five drops at a dose produced sickness, with languor; while a single drop, taken at most three times a day, reduced the pulse from above 100 to the healthy standard, and removed a nervous atrophy. I have known several persons bear a teaspoonful of the same tincture thrice a day, without inconvenience; and one individual, affected with quotidian ague, took a hundred drops thrice, and sometimes four times a day, without more effect than the spirit might produce in one unaccustomed to fermented liquors.

In the West-country Contributions, (p. 532) I have related a case, in which the pulse being at 80, in a sitting posture and regular, it would, upon the patient lying along the sofa, soon fall to 60, and become irregular; instantly returning to its former regularity and frequency if the patient sat up again. Of this observation I have frequently availed myself, to ascertain the first operation of digitalis on the system. And where it is desirable to stop short of disagreeable feelings, a comparison should be made

of the state of the pulse in the two postures. We shall sometimes find a greater than natural difference in the frequency and strength, without irregularity.

In a child of seven years old I have observed an instantaneous change from 130 regular to 70 irregular. Dr. Crawford, physician at Bath, lately mentioned to me a very striking instance in a person not five feet eight inches high, of a difference of 45 pulsations under the use of digitalis, between the decumbent and the sitting postures.*

* The whole case deserves record. It is related in the following letter :

“ The symptoms under which my patient, who is a medical man, laboured, were such as are generally supposed characteristic of hectic fever, viz. increased frequency of pulse in the evening, amounting generally to 120 in a minute, attended with fits of chilliness, succeeded by augmented heat; and as the morning approached, profuse perspiration. Total want of appetite, and much debility, accompanied the preceding symptoms. These complaints were subsequent to an inflammatory affection of the liver. In this situation recourse was had to the digitalis, and with complete success; for after taking about twenty-five grains, the patient perceived his symptoms to yield, and health was in a short time restored. The circumstance, however, which, during the exhibition of digitalis, more particularly excited our attention, was the remarkable difference in the frequency of the pulse, between the decumbent and sitting posture. On the second morning after the exhibition of the medicine, (two grains having been given the preceding night) the patient was not a little alarmed at finding his pulse

This, however, is not universal. In a medical consumptive patient, five feet nine inches high, (Mr. R. Allen, surgeon of H. M. S. Orion) the contrary obtains. "There are," he observes, "two things about me very odd. The first is, if at any time of the day I lie down on a bed, with my pulse so low as 50, it will become full and increase to 70 or 75." This acceleration may, I suppose, be attributed to the particular situation of

so low as 45 in a minute; on sitting up in bed, however, he was astonished to find it immediately rise to 90. This remarkable difference was observed for several mornings; but as the symptoms began to yield, the digitalis ceased to produce so much effect upon the pulse, and the difference from change of posture was not noticed. It may be said, that the alarm from the slowness of the pulse acted as a stimulus in producing the increased frequency when the patient sat up; but that this was not the cause, is evident from the experiment having been tried with the same effect, on several mornings, when no mental agitation existed. A similar effect, in consequence of the exhibition of digitalis, is, I believe, mentioned in one of the numbers of the Medical and Physical Journal. The circumstance of change of posture altering the number of pulsations, has, as you well know, been completely ascertained by Dr. Macdonald. In his experiments, as far as I recollect, twenty pulsations were the greatest increase from the erect posture; but in the case which I have just mentioned, the effect was almost double. From the fact which I have mentioned, I think we may draw this practical conclusion, that when we exhibit the foxglove, we ought to attend very minutely to its effects on the pulse, when the patient is in bed; for if we trust to an exam-

some disorganized part of the lungs. On requesting farther information, I learned, "*that in the morning, after a whole night's continuance in the decumbent posture, the pulse is at its lowest.*" It would seem, therefore, that after the parts have accommodated themselves to the decumbent posture, the usual proportion of action occurs.

When the mild exhibition of digitalis produces no good effect, and the patient is not greatly reduced, I have occasionally found it useful to administer it in nauseating or in sickening doses. In a few cases the purulent expectoration has been lessened at every sickness, and under the use of intermediate small doses has failed to return to its former quantity.

I have very frequently employed digitalis externally; but never alone. I am not, therefore, able to speak with confidence of the effects of this manner of using it. In cases where the common mode fails, I purpose to try friction vigorously, and hope

ination after he has risen, we may be induced to push the medicine farther, and by so doing, run the hazard of sinking the pulse beyond the point compatible with life.

"Wishing you every success in your unremitting exertions in the cause of medical science,

"I am, &c. &c.

"STEWART CRAWFORD.

"Bath, April 13, 1801.

"To Dr. BEDDOES."

sometimes to succeed. I imagine some analogy of operation between sickness from digitalis and sickness from sailing. The persons, in whom I have seen consumption considerably mitigated, and the very few whom I have known perfectly cured, by a sea voyage, have not, any of them, belonged to the more puny division of the consumptive. And I apprehend delicate females, affected by this disease, rarely experience great relief from sea sickness. I do not, however, feel myself entitled to advance an opinion on this point. I merely offer a conjecture, principally wishing to excite the attention of observers.

On comparing the accounts of failure and success, it may be asked, *whether there does not exist some different pulmonary complaint, in which foxglove succeeds, while it fails in true consumption?* The query is too obvious to escape any one who has opportunities of observation, and incitements to reflection. But hesitation in the face of full evidence, is not less discreditable to the judgment, than being positive without proof; and I do not scruple to affirm, that the supposition of two distinct species of pulmonary disease, having certain symptoms in common, and hitherto confounded under the name of *phthisis pulmonalis*, in one only of which digitalis operates as a remedy, is altogether groundless. In a variety of successful cases, conformation, habit,

the history of the family, as well as actual morbid symptoms, have indicated tubercles* in the lungs. There is also a gradation of efficacy of digitalis. It will sometimes mitigate the symptoms, and nearly suspend the disease for a time, without ultimately producing a cure. It is sometimes, as hitherto administered, altogether inefficacious.

When foxglove is deficient in operation, I have found the conjunction of opium in large doses, of bitters and squills, powerful auxiliaries. I have often joined with it hyoscyamus and cicuta.

Mr. Allen, whom I have already mentioned, having laboured for some time under cough, pain of the breast, expectoration, and hectic fever, took tincture of digitalis thrice a day, in doses, gradu-

* I by no means hold *tubercular* and *serophulous* to be identical. In subjects not only without any mark of serophula, but of constitution totally different from the serophulous, I have seen tubercles. From tubercles in the lungs no age or temperament is exempt, though they do not infest all alike. In some subjects they are probably dispersed, by the benefit of nature, soon after their formation. In some they continue always or long quiescent; in others they run quickly into supuration. It is not, perhaps, of such mighty consequence whether effusions or preternatural productions, stimulating to phthisical ulceration, have the tubercular form or not. Perhaps chemistry, when so improved as to have just pretensions to decide in pathological questions, will detect as wide differences between tubercles of the lungs, as it has detected between calculi of the urinary bladder.

ally increased, till he reached twenty-five drops thrice a day. It had no manner of effect on his pulse, and did not sensibly alleviate any one of his symptoms, the sediment only in the urine totally disappearing in three days, under its use.

Mr. Allen then took at my request, a teaspoonful of the following tincture: tincture of columbo, three drachms; compound t. of cinnamon, two drachms; of opium, one drachm and a half; adding to each dose three drops of tincture of squills for one of digitalis, till he came to half the dose of digitalis formerly taken alone. In a week, the dose of tincture of digitalis being thirteen drops, and of squill thirty-nine drops, the pulse was reduced to 50.

For further illustration I add an extract from the journal of a case, in which digitalis in simple tincture and decoction, having produced no good effect, the hectic fever, cough, and expectoration, were gradually diminished, by a more complicated plan of prescription.

“September 12. Cough and pulse much reduced since the increase of the opium. No night sweats; expectoration less. To take the two following pills, if the slight nausea of which the patient complains this morning, goes entirely off; otherwise only one:

R_x.Pulv : digitalis purpur : gr. $\frac{3}{4}$.

Opii pur : gr. ifs.

Succ : spiffat : cicutæ gr. iv. m ut fiant pilulæ ij. h. fumendæ.

Sept. 13. P. 68. Scarce any nausea this morning; and the same in other respects.

R_x.

Pulv : digital : purpur : gr. i.

Opii pur : gr. ii.

Succi cicut : spiffat : gr. vi. m ut fiant pilulæ iij. h. s. fumendæ.

R_x.

Pulv : digital : purpur : grfs.

Pilulæ styrac. c. gr. iifs.

Succi cicut : spiffat : gr. iv. m ut fiant pilulæ iij. cras mane fumendæ.

Sept. 14. Expectoration less; cough little; no night sweat; repeat the morning pills, with a grain of powder of digitalis, at 4 P. M.; and likewise tomorrow morning, if no sickness occurs: also, at bedtime, with the addition of a grain and a half of opium.

Sept. 15. Pulse 60; some dry heat of the skin about 7 P. M. No sensible night perspiration. Repeat the pills as before, three times a day, adding to each dose two grains of antimonial powder.

Sept. 16. No heat of the skin yesterday evening. Slight bilious vomiting immediately after awaking this morning, without remaining nausea. P. 44. Expectoration sensibly diminished.

Rx.

Infus : gentian : compos :

Aq : menth : pip : ana \bar{z} fs.

Tinctur : digital : purpur : gtt. xx. m Capiat
dimidiam partem hora quarta pomeridiana :
alteram cras mane.

Rx.

Pulv : digital : pu. pur : grfs.

Pilul : scill :

Opii pur : ana gr. ij.

Succi cicut : spissat : gr. vii. m et divide in
pilulas iv. h. s. fumendas.

Sept. 17. Expectoration not a fourth part of what it was a fortnight ago. P. 58. Cough little ; no chills, heats or sweats. Can lie, with little inconvenience, on the left side."

I have seen several instances, where the symptoms of consumption having resisted the fullest course of digitalis, yielded to a plan similar to those exemplified above.

When digitalis has failed altogether in incipient consumption, I have occasionally found calomel

succeed in a few instances. The following is one of the most remarkable :

Miss J. W. fair, puny, narrow chested and tall, has for some time complained of a short dry cough. She is almost every evening sensible of flying chills, succeeded by a hot and parched skin. In the morning the chest is commonly moist. She cannot lie on the right side without cough and shortness of breath. For some time before the cough was noticed, Miss J. W. was uncommonly languid and subject to flushings, especially after dinner. She became out of breath on going up stairs. Her flesh has gradually wasted. She is still regular; but the catamenia are deficient in quantity. One parent and two sisters, I am told, have died consumptive.

After the useless exhibition of digitalis for three weeks, (within which time if this medicine does not produce some alleviation, it seldom succeeds at all) I determined to make a cautious trial of mercurials. Their use in complaints somewhat analogous, as in enlargement of the mesenteric glands with hectic fever, induced me to expect benefit in a case where I perceived hectic fever, and believed pulmonary tubercles to exist. In the objections of the older medical writers to mercurials in phthisis, I could not feel any force. I prescribed, therefore, half a grain of calomel twice a day, and sometimes

a grain, when the bowels did not threaten to become disordered. In about a fortnight the cough and hectic fever were greatly abated. Perseverance for another week, with augmented doses, produced a slight inflammation of the gums; and now the cough ceased almost altogether, and the fever subsided. The medicine was continued more sparingly for five weeks longer. The disorder gave way completely; and during a year and a quarter the patient has had no sign of a relapse.*

* A result, as strikingly opposite as can be conceived, has lately occurred to me, in the case of a lady in the family of Anthony Galwey, Esq. of Carrick Castle, Ireland. One of her physicians, Dr. Ryan of Kilkenny, favoured me with the following history of this lady. "About a month elapsed from "the time she began to cough till it was thought necessary to "consult me. I found her with a constant teasing cough, un- "attended by expectoration. Her breathing was oppressed, "and she complained of wheezing; this symptom, and the "cough, were much aggravated by lying on one side in parti- "cular. Some perspiration was perceptible every morning. "Her pulse was small, quick, and hard. It increased in fre- "quency every evening. All these symptoms shewing the "lungs to be materially injured, I had recourse to all the meth- "ods I have found effectual in preventing the formation of "matter. She was bled in small quantities, and had blisters "applied to different parts of the thorax; at the same time be- "ing restricted to a milk and vegetable diet. Still finding the "alarming symptoms not likely to yield to this plan exclu- "sively, I ordered a medicine, which I have found highly salu- "tary in the early stage of phthisis pulmonalis, and before any

I have sometimes given the *hydrargyrus cum creta*, and sometimes the simple mercurial pill instead of calomel, without any variation in the effect. And I have of late often joined one or the other with digitalis.

“ pus appears in the expectoration ; I mean mercury. Mrs. ———, however, is one of the cases, in which calomel united with opium, camphor and James’s powder, has failed. On this account, and from the increase of the hectic fever, I am very apprehensive that a state of purulency has taken place.”

Between the date to which this account refers, and Mrs. ———’s arrival at the Hot Wells, the disease had greatly increased. The hectic fever, particularly its perspiratory stage, had become extremely violent ; the wheezing troublesome ; the breathlessness excessive ; the expectoration purulent, not copious, but moulded into dense globules ; the pulse 125.

I immediately prescribed digitalis, with a moderate opiate at night ; and the pulse now not being hard, the patient was desired to proceed, by quick gradations, to a full diet of animal food. In about nine days the pulse had sunk to the natural standard ; and in double that time, the night perspirations were all that remained of the hectic fever : pulse subsided ; and in six weeks, of a course, in which the digitalis was managed so as to keep below an operative dose, and indeed never exceeded thirty-six drops in twenty-four hours, they nearly disappeared. It took near four months to put an end to the wheezing and purulent expectoration, and to enable the patient to lie comfortably on the left side. The patient has now recovered her flesh, and is as near well as possible ; but the digitalis will be continued some time. During the last two months mercurials have been added to digitalis, to expedite the cure ; but as they very soon disturbed the bowels, they have always been soon dropped.

There is a state of confirmed consumption, in which, if an auxiliary to digitalis of given operation could be discovered, some lives would be saved. The state I allude to is of this nature. In some instances, when the foxglove has removed the hectic fever, and greatly reduced the expectoration and cough, the decline shall become almost imperceptible; the patient frequently appearing chlorotic,* but being really phthisical, as the event most commonly, and sometimes dissection has evinced. During this almost stationary period, the organs of *sanguification* appear inert; and the deficient production of blood (into which the chyle is probably converted in the lungs) sufficiently accounts for that *consumption* of the body which denominates the disorder. This defect of sanguification explains the emaciating process, when there is no excess of action either in the capillaries or other parts of the vascular system, nor any apparent drain or else less evacuation than exists in cases where there

* In young ladies chlorosis is too apt to be succeeded by consumption. It would save some disgraceful, and what is worse, some fatal mistakes, if the chance of this succession were kept in view. However convinced that the present symptoms may be referred to chlorosis, the physician should take care how he pronounces *the chest absolutely safe*. It is not difficult to enunciate an opinion, so as to induce the friends of a patient not to withdraw their solicitude altogether, till the danger of pulmonary complaint vanishes.

is no emaciation. Those principles which enter into new combinations during muscular contraction, being derived from the blood, and blood not being formed in sufficient quantity, the substance of the body will be wasted by the mere vital movements. Neither will the fat be replaced as fast as it is absorbed; and so of other parts. In phthical children, where the attractions on which growth (or longitudinal extension of parts) depends, do not cease, though probably solids very different in constitution from the healthy solids are formed, it should seem that emaciation ought to go on with peculiar rapidity, if other circumstances were alike.

In the situation above mentioned, the conjunction of preparations of iron with digitalis is a very obvious idea. I shall not assert that such combination is absolutely unavailing; but in several instances in which I have tried it, I have not seen decisive good effects. Perhaps, in the described condition of the system, chalybeates do not excite the uninjured parts of the lungs to increased activity in forming blood, which seems the process wanted. Perhaps warmth, or air impregnated with stimulating particles, may answer; and with the chance of preventing feverishness by digitalis, oxygen gas I think deserves a trial. In one well marked instance of the *chlorotic* variety of consumption

arrested by digitalis, where chalybeates proved in no degree serviceable, I wished to put the powers of oxygen to the test. But the too great resignation of the patient to her fate, and the want of zeal in her friends, frustrated the design.

Under the almost total suspension of phtysical disease in another patient, to whom I mentioned the respiration of oxygen and travelling,* as two possible means of determining the lungs to more vigorous action, the latter was preferred. I may hereafter be able to speak of the power of oxygen from experience.

Mode in which digitalis operates.

OF the medical cyclopædia, imperfect as it is throughout, no department has, I think, been so unsuccessfully laboured, as that to which the present head belongs.

The treatment of particular articles has appeared to me as little philosophical as the arrangement of the whole; nor have I been able to contemplate, without disnay, either the barren waste presented by many extensive treatises, or the host of partici-

* This is the only conjecture concerning the manner in which change of air acts, in which, after much consideration, I can acquiesce. Change of air operates in no complaint with more certain advantage than in chin cough. This fact points directly to an alteration upon the organ immediately diseased.

ples, of which language has been plundered, to perplex the *materia medica*. I will not presume to say, that no dexterity has been shewn in that shuffling and cutting of terms which has employed so many hands; but I cannot perceive what great winnings it has brought home to students, or practitioners of physic.

The most profitable course, in my opinion, would be to settle in what a knowledge of the operation of any medicine may consist; and then to compare this idea with our actual attainments.

At present I can only enuntiate an opinion, reserving full discussion to a future occasion. To whatever organ medicinal application is made, I consider the applied substance as a chemical compound. The organs themselves I consider likewise as chemical compounds, extremely variable, and of a peculiar nature for the time being. We know that certain changes in those organic compounds, which are first affected, will produce successive changes in connected parts, till perhaps the whole frame undergoes a change in its composition, and consequently in its actions. Some effects of these changes will be manifest; others more obscure; and others not ascertainable by any of our present methods of observation.

There is nothing in all this peculiar to the beings which we usually denominate *organized*. Altera-

tions in any body will produce alterations in a series of adjacent bodies to an indefinite extent. The changes produced by the burning of a candle, may be traced far into the sublunary system; and by help of pretty close analogies, they may be pursued into a more remote region of the universe. In organized bodies, if secondary effects are more sudden or more sensible than in most others, this is owing to the close connection of their members, and to the easily variable constitution of each member. By virtue of their connection, the members of the galvanic piles, at present known, seem to influence one another as readily as the bodily organs; but being similarly constituted, there is presented no diversity but in the degree of operation.

The system here sketched, I know, cannot be rigorously demonstrated. He who pretends to demonstrate it, must come provided with a complete list of the principles of organic bodies, and this is but the first step. But it does not, like the unproved and unnecessary hypothesis of a *vital principle*, run counter to the most accepted rule of philosophizing. It is a system in which the persons of reflection must, to a certain degree, acquiesce; because, by giving an idea of the immense difficulties that stand between us and the philosophy of organized beings, it accounts for the nonexistence

of medical science. Nor is this all: it confers inestimable advantages in the practice of medicine. For must it not be impossible for the physician who, in the true sense of his ignorance, has prostrated his understanding, with a kind of religious awe, before the VAST UNKNOWN that resides in the sanctuary of living nature, must it not be impossible for a mind so tutored to discard, unexamined, any instrument of healing? Such a mind bids fair, likewise, to be always fertile in resources. Whereas the slave of routine and false system will continually be in danger, either of blindly overlooking, or stupidly rejecting the means that would most effectually relieve those who are crying out to him for help.

According to the above principle, the inventory of our data towards estimating the action of medicinal substances, is soon taken. It is confessed that their intricate constitution, in scarce any instance, has been unravelled. This is probably the case with all, even metallic preparations, in their relation to the animal economy.

Again, we can scarce be said to have advanced a step in vital chemistry. We are not acquainted with the constitution of any one organ in any one of its conditions. We know nothing of the difference between the several conditions compatible with life. How, therefore, the recipient and the re-

ceived body modify each other in the first instance, remains a perfect mystery. Nor are we better informed as to many of the consequences of the primary modifications. Of some, our senses may occasionally inform us; and would inform us of more if they were more assiduously and advantageously applied. But we shall most grossly deceive ourselves, if we imagine that such observations as we at present take, can ever amount to a theory or systematical body of facts. They are, perhaps, always remote effects, and therefore, relatively to us, uncertain; the more remote, the more uncertain; because, of the parts progressively affected, if any one, unknown to the observer, be in a different state at different times, or in different persons, the effect that has previously taken place, and is again expected, may fail to appear. Our judgment, however, respecting the character of medical agents must abide by effects, thus remote and uncertain.

The state of the pulse consequent upon the reception of a given substance into the stomach, is one of the effects of which I am speaking. How then is the pulse affected by digitalis in determinate circumstances? In endeavouring to ascertain this, I did not assume, and have always been far from assuming, the Brunonian principles. I was prepared to perceive an inferior action, without the intervention of a greater of any kind, and independ-

idently of subtraction of stimuli. I do not think we are yet in possession of such exact observations, as to be sure that a contractile part, for example, cannot be so changed as to contract with less force, as well without previous greater contraction as after diminution of heat or blood; and the same with regard to sensible parts. But digitalis, in carefully regulated doses, that is, so administered as not to induce sickness or languor, very regularly increases the momentum of the blood. In this view, therefore, it is the contrary to a *sedative*. Of the fact here stated, I think myself more certain for the following reason.

It had long (as I have publicly stated) appeared to me practicable to acquire measures of irritability and sensibility, particularly of the former. I supposed that an instrument might be so constructed, as when applied to some artery, to shew the force of its stroke.

Having mentioned this idea to Mr. Robert Weldon, that ingenious mechanic fell upon a simple contrivance, which seems capable of being rendered worthy of adoption by medical practitioners, and which, I believe, under a fair prospect of remuneration, he would improve and make public.*

* I perceive, fully, that uncertainties will arise from the more or less superficial situation of arteries and other causes; but in common circumstances we should still attain useful approximations.

Upon the scale of this instrument, I have seen the pulse of different healthy adults vary as widely as from six to sixteen degrees; and I am much mistaken if I have not felt an artery with a weaker stroke than that corresponding to six of these degrees, increased to above sixteen under the guarded administration of digitalis. The frequency, it is true, was always diminished; but still the dilations of the artery, in a given time, would have communicated much more motion.

Having observed how greatly the appetite of many phthical patients increased under the use of simple digitalis, I have given it in several cases of dyspepsia, and with the best effect. The appetite having increased in these cases, and the symptoms of indigestion having disappeared, I conclude, without imputing to it superior qualities of this kind, that digitalis will increase the power of the stomach. The limitation of the dose is obviously a condition applicable to all substances in possession of the title *stomachic* or *tonic*. In two of these cases the patients were clear that the quantity of urine, particularly of that made in the night, decreased: an effect to be expected in certain circumstances, from whatever strengthens the digestive power.

In three cases of *nervous atrophy*, I have prescribed tincture of digitalis with success. In these cases there existed excessive sensibility, fever, with eve-

ning exacerbations, and wasting of the flesh, without the least appearance of disease in any of the viscera. And the origin of the complaint could be traced to moral or physical causes, peculiarly affecting the nervous system. Small, and upon the whole, infrequent doses, were given in two of the cases; small ones in the third, but four times a day. This result will be referred by some to the sedative power of digitalis; but I saw no reason for supposing less contraction in the arterial system during and after than before the cure; and there was certainly more tone in the other muscles.

The soporific power of digitalis in tincture, diluted by water, or in powder, has been, in many instances, to the full as remarkable as that of opium. Patients have repeatedly told me, *that they could sleep all day; and that I was certainly giving them a great deal of opium*, when they were taking none of this latter drug. From a multitude of examples, I shall produce only the observation of a lady, who lately put the anodyne effect of digitalis to trial, because I doubted whether the prolonged sleep and constant drowsiness, which she formerly experienced, when taking a very slight opiate along with digitalis, was not owing to the opiate.

“ My dear Sir,

“ Tincture of digitalis, in doses of from eight to ten drops, in an infusion of quassia, with from six

to ten drops of the aqueous solution of opium, twice a day, has, with me, produced sensations of languor and sleepiness.

“Wishing to ascertain whether these feelings were the effects of the digitalis alone, or of its combination with opium, I have lately taken ten drops twice a day, in water, and have experienced languor and sleepiness in an equal if not superior degree to that produced by the same quantity taken with other medicines.

“The tincture of digitalis has never occasioned nausea, though I have sometimes increased the dose gradually to twenty-five drops three times a day, in infusion of quassia, with a proportionate quantity of opium.

“I am, &c. &c.

“S. MORGAN.

“To Dr. BEDDOES.

“Clifton, *April 29, 1801.*”

Since this and similar facts fell under my notice, I have been consulted by not less than five or six invalids, miserably harassed by want of sleep, and to whom opium, in all sorts of doses and preparations, had been administered, either by myself or by other physicians, with none but the most disagreeable effects.

A lady in the family of John Wedgwood, Esq. of Cote-house, near Bristol, had been as great a sufferer as can be conceived, from watchfulness and from diversified trials with opiates; the *balsamum asiaticum* not excepted. I was fortunate enough to discover the applicability of digitalis, to the intention of producing sleep in time to render her the most essential service. The experiment was rendered very satisfactory, by the circumstances attending it. They are stated as follow, by Mr. Wedgwood, who undertook to superintend the administration of the digitalis, which was given in tincture, from four to seven drops three or four times in twenty-four hours.

“ Dear Sir,

“ If my testimony to the soporific effect of the digitalis can be of any use to you, I subjoin below what I have seen. When you began to administer it to the patient, she was very weak and languid, and extremely restless at night, seldom sleeping more than half an hour at a time, and that in a very disturbed manner; usually lying awake till two o'clock, before she began to sleep at all. The first night after beginning to take the digitalis her sleep came sooner, and was more composed and refreshing, and continued so until that medicine was omitted for a few days, when the restlessness at

night returned as before, and was again conquered by a renewal of the digitalis; and by a perseverance in taking it the sleep is become habitual, though the medicine is now discontinued. These facts fully convinced me, that digitalis might be trusted to as a soporific, where, from particular causes, opium could not be given.

“I am happy to say, that the patient is now getting better pretty quickly, and has given over taking any medicine at all.

“Your’s truly,

“JOHN WEDGWOOD.

“To Dr. BEDDOES.

“April 13, 1801.”

In these instances I sometimes joined an aromatic tincture to the tincture of digitalis; and sometimes gave it in water, without any perceptible variation in the result.

Opium, in the doses in which it is usually given, proves of the greatest service in curing common colds, after the inflammatory stage is over. Digitalis I believe to be still more speedy and certain in such cases; and here indeed I regard it as the most unfailing article of the materia medica; and capable of preventing pulmonary consumption, whenever it threatens to succeed the measles, or the slighter pneumonia of weaker subjects.

In the production of languor, of excess of sensibility, head-ache, and bilious vomiting, digitalis seems greatly to resemble opium. I have known digitalis occasion an increase of the pulse from 76 to 120, with heat of the skin and head-ache. In two instances I believed it to produce feverishness, with a peculiar mottled appearance of the whole skin. In one person a sort of intoxication so repeatedly followed a dose of fourteen drops of the tincture, taken twice a day for two or three days, that I could entertain no doubt as to the cause.

If, therefore, I were to exhibit the materia medica upon a map, I should represent digitalis as not merely touching upon opium, but bordering upon it for some space. In another part it should be contiguous to the vegetable tonics, or bitters. I speak here from the phenomena presented by the living system only, little trusting to analysis for the solution of such a problem, in the present state of chemistry. It was the idea of such affinity that led me to mix opium or bitters, or both, with digitalis, where this alone proved inefficacious.

To the lady, mentioned in Mr. Wedgwood's note, after she had successfully taken digitalis for some time, I gave four drops of tincture of opium, with ten of tincture of columbo, four times a day, with the same good effects; and yet I had before, in vain, given the same dose of opiate alone. These

combinations I think well worthy further investigation. Hops are frequently fold in small quantities, to be placed near the head in cafes of watchfulness. I known not if any preparation of the hop, taken internally by those who do not drink beer, would be of use, as an auxiliary to digitalis or opium.

Cold blooded animals appear to me to offer a more distinct scale for measuring the powers of certain substances; and I conceived, if I had rightly fixed the relative situation of digitalis in the materia medica, that experiments upon animals of this class would shew a considerable correspondence between opium and digitalis. I accordingly requested my friend, Mr. King, lately surgeon to the Shropshire supplementary militia, to make the following experiment. The relation is drawn up by him. We observed the phenomena together, but he stayed longer to watch them; and it is some security for the exactness of a report, when it is drawn up by a person different from him who, in consequence of a preconceived opinion, proposes the experiment.

“Two lively frogs were put under separate receivers, with apertures on the top, after a piece of paper steeped in a strong watery solution of opium, had been applied to the back of one, and another paper of the same size, steeped in a strong infusion

of digitalis to the back of the other. Both shewed extraordinary symptoms of excitement, by leaping violently, and rising upon their hind legs against the sides of the receiver; stretching themselves so as to appear quite stiff for some minutes. These motions, however, abated gradually, and nearly subsided in about three-fourths of an hour, when fresh papers, prepared in the same manner as the former, were applied. The same excitement appeared again, and was now even more violent in both than the former. This subsided completely in about the space of an hour. When they began to be quiet, the slightest touch of a feather, particularly on or near the nates, made them start suddenly, with great impatience; but to this they gradually ceased to be sensible. An hour and half after the papers had been replaced, they became quite torpid. The only parts which seemed to retain irritability, were the eyes, which they never closed. I laid hold of them without the least precaution; their torpor did not permit them to stir a leg until they felt themselves enclosed in my hands, and then their efforts were much weaker than usual. I now put them into separate glasses, containing cold water. At the moment of their immersion they were violently convulsed, and particularly the one which had been stimulated with opium. This rose against the side of the glass,

supporting itself upon its extended hind legs, so as to keep its mouth above the surface, breathing very fast for three or four minutes. The other was less convulsed, and assumed a similar attitude for about one minute; then plunged to the bottom of the glass, which it repeated three times in five minutes. After this I placed them again under dry receivers, with air holes; and their state during the succeeding two hours seemed the same as it was before the experiment.

“Next day the experiment was repeated upon the same frogs, and in the same manner, and in general with the same effects. The opium used on this day, however, was weakened, by the addition of one ounce of water to forty large drops of the solution. The frog, to which the opium was applied, was visibly affected in the same manner as before, but in a much slighter degree. When the torpid state of both was at its highest point, a gentle touch, with a feather, could not induce either to move; but when teased, and pushed out of their position, they became convulsed, particularly the one that had been stimulated by digitalis on the preceding day. The experiment being repeated, with opium applied to the animal which had been wetted with digitalis, and *v. v.* gave a similar result.”

Two frogs, caught the day before, were dipped, immediately on being taken out of the water, for a

minute, one in watery infusion of opium, the other in watery infusion of digitalis; and a third frog, taken out of its water at the same time, was laid under a separate receiver, as also was each of the others. Both of the dipped frogs soon began to breathe at the rate of sixty or seventy respirations in a minute. That from the opium breathed most laboriously, and for the longest time.

The frog from out of the water rested still during the whole time. The two others immediately began to move wildly about the glass receiver, turning round and round, sometimes to and sometimes from the light.

For upwards of half an hour they continued to rise up the sides of the receiver. That which had been immersed in the opium was observed to stretch itself two or three times, against the glass, more stiffly; but did not move more constantly.

In four hours the receivers were moved to a dry stand; and soon afterwards the two dipped animals seemed covered with a mucous varnish, secreted from the skin, with which the board within the area of the receiver was likewise moistened.

The same three frogs were kept out of water for about sixteen hours; and two were then immersed again in the same infusions, only now both were dipped for two minutes, head and all for a short time, the mouth being held close, so that no

liquid might be swallowed. The infusion of opium was here also as in all the other cases, the stronger in its kind. The third frog was dipped in water.

The two first immediately breathed quick and deep; that which had been in the opium most so. This seemed uneasy, but shewed infinitely less vivacity in its movements than the one which had been in the digitalis. In both there appeared, after some time, the mucous secretion from the skin; not at all in the third, which continued exactly as before it was wetted with water, motionless, at ease, and without quickened respiration.

In these experiments we saw distinctly enough, that digitalis, externally applied, has a very great effect in exciting frogs to motion.

All these animals agreed in falling into a state of torpor, after the increase of action and sensation was over.

It not being necessary to my present purpose to determine minutely the conditions of the operation of digitalis on frogs, I neither introduced it into the stomach, nor followed up the experiment into those numerous variations of which it is susceptible, particularly by comparing the operation of other articles of the *materia medica*.

Toads, in the only experiment we made, shewed much less propensity to be excited into voluntary

motion, either by opium or digitalis. Of five toads, one had a paper, wet with spirit of wine, applied to its body. It was immediately rendered torpid, and kept its eyes shut; and seemed dying for the second quarter of an hour, and died in the beginning of the next.

A second, treated in the same manner, with laurel water, appeared passive, and kept its eyes shut. It rose frequently against the glass, stretching itself on its hind legs. In the third quarter of an hour, more laurel water being added to the paper on the body, it was convulsed for a minute, and then became torpid. When apparently dead, it recovered for a minute, in cold water. The eyes moved, on being touched, for an hour, when the animal died. The limbs were galvanic.

A third toad, with infusion of opium, continued half an hour motionless, with its eyes open, then seemed very torpid; breathed more quickly, and shut its eyes; then gaped, panted, and made uneasy motions. In the fourth quarter of an hour, the animal was convulsed, and vomited so as to invert the stomach. In an hour it died, and proved galvanic.

A fourth toad, with infusion of digitalis, remained motionless, and with the eyes open like the last. In half an hour it was found irritable to the touch, and so continued for an hour.

A fifth toad, wetted with water, as the others had been with the respective liquors above mentioned, as might be expected, manifested no change; but both this and the fourth, to our surprize, died next day. Hence the animals, it should seem, were not in a healthy state at the time of the experiment.

If we bring these facts under one point of view, we shall find :

1. *That digitalis, in a certain dose, will increase the action of the arterial system.*

2. *That it will increase the digestive power of the stomach, when that is impaired.*

3. *That it will often induce sleep, like opium.*

4. *That, like opium, in an over dose it occasions languor and excessive sensibility, head-ache, dimness of vision, nausea, and bilious vomiting.*

5. *That it almost immediately produces great excitement in frogs, somewhat as opium does; and produces certain other effects similar to those of opium.*

If I were required to offer a conjecture concerning the general operation of digitalis, I should perhaps say, that it increases the organic action of the contractile fibre as much, or more, than opium; but that it does not so much, or so immediately, increase the organic action of the nerves. In comparing it with bitters and vegetable tonics, I should reverse this proposition, and impute to it greater

power of increasing the organic action of the nerves. These two properties (which, though they appear to us either simultaneously but distinguishable in the same individual, or separately in different individuals, branch from a single impression on the mucous membrane and stomach, or skin) seem so combined in digitalis, as to give it its common, but *by no means constant*, power of reducing the frequency of the pulse. Other substances now used in medicine, if their effects are more accurately observed, will, I doubt not, be found (though less generally, and less remarkably)* to diminish the number of pulsations. Of opium this has been already ascertained. I was led by the hypothetical relation, which I have just stated, of digitalis to opium and bitters, to exhibit these as auxiliaries; and I believe that digitalis, combined with bitters, will act upon the pulse, when alone it will not; and when opium produces too great or too sudden a nervous excitement, followed by languor too excessive to allow of sleep to intervene, (which state

* It has appeared from Dr. Briggs's Journal, how speedily a great reduction in the number of his pulsations was effected. I have this day learned, that one hundred drops of tincture of digitalis, given once by mistake, brought down the pulse of an invalid at Liverpool, for whom I have been consulted, from 116 to 58. This, with a temporary diminution of appetite, was the only consequence observed from the dose.

is, perhaps, owing to a more moderate degree, and slower succession of these effects) I suppose, that by diminishing the quantity of opium, and substituting a larger portion of bitters, the soporific operation will sometimes be obtained.

Whatever may be the justness of these ideas, I hope I have brought together facts enough to induce those to pause who may be tempted to argue from a decreased number of pulsations to a decrease of living action, and from this to the propriety of employing digitalis, in the height of inflammatory orgasm. In pleurisy, if any one should be mad or wicked enough to forego the so certain resource of the lancet in favour of the *sedative* virtue of digitalis alone, he would, I apprehend, increase the disease, if he confined himself to moderate doses. If, with digitalis he employs copious bleeding, his practice will not admit of reasoning, as the benefit from the operation may mask the mischief from the medicine. Perhaps, from the peculiar susceptibility of the system, this mischief will be more, than may be apprehended from experience of states not inflammatory. It is possible that immense doses, by rendering the period of excitement evanescent, might produce the desired effect. On this principle, opium may be sovereign in pleurisy. But I know not who would feel himself justified in proceeding on such a principle. If any one bold

enough can be found, it is fit that he should be clearly given to understand what he is risking.

Of those who have used digitalis in consumption with success, several have tried to teach us how it acts. I, too, have diffidently endeavoured to attain a gross conception of its manner of operation; and I imagine it may produce an excitement of the system, so moderated as to resist the cold paroxysm of hectic fever. The suspension of hectic fever may be often witnessed, where the cough and expectoration continue unabated. The effect, however, is propagated to the diseased, in common with the other parts. Here, if the constituent parts of the organization are capable of assuming and supporting a certain vigour of action, the disease lessens; the exhalants of the unbroken and ulcerated pulmonary surfaces discharge less mucus and matter; the lymphatics absorb more; the nerves lose their acquired sensibility, and the cough abates. But where the sensible and contractile fibres are from constitution and habit feeble, no such salutary change can take place. I should not suppose that in dropsy, the absorbents are excited in a way at all different or more direct, or the veins in hæmoptysis.

OBSERVATIONS
ON
THE CURE
OF
SCROPHULA.

IN several foreign writers I found a medicine strongly recommended in scrophula. To my feelings these writers spoke the language of genuine observation; and I soon met with cases which resisted calomel, sponge, steel, bark, (tepid) sea bathing, muriate of barytes, and all the other remedies which are more commonly in use among us. In the known qualities of the medicine, I found nothing at first sight objectionable. I was encouraged by a correspondent, and so I tried it; with what success I have now briefly to relate. This medicine is the muriatic acid, saturated with lime; the *muriate of lime*. I have employed no particular

nicety in regulating the process by which it has been prepared. Muriatic acid, or spirit of salt, has been taken, such as the shops supply. I have given it to near an hundred patients, in various conditions of life. The dose has been from ten drops for young children, to two drachms for others, three or four times a day. A drachm, diluted with water, (and this is the way I have often ordered it) I consider as a medium dose.

There are very few of the common forms of scrophula in which I have not had successful experience of the muriate of lime. A few cases will exemplify its powers, and induce practitioners in medicine, when they want a more powerful remedy for scrophula, to have recourse to this.

CASE. L

A BOY, seven years old, with light hair and eyes, distinct blue veins winding beneath a smooth, and what the writers of novels, in their dainty delineations of the human form, call a *transparent* skin, with large head and joints, had a voracious, nearly insatiable appetite, a protuberant belly, which grew harder at night, wasted limbs, and frequent slimy stools. In the evening he had chills, succeeded by heat and night sweats. The pulse was generally 120, or above. Scarce a medicine against worms, or *tabes mesenterica*, which he had not taken, particularly calomel, both in small doses, so as to affect the mouth gently, and in larger, so as to operate smartly on the bowels.

A dose of ten drops of the muriate of lime, raised gradually to forty, and which the child took with most pleasure in small beer or coffee, began first by stopping the purging, then gradually diminished the hectic fever, and in two months restored the child to health, which has been permanent for above two years.

CASE II.

MISS M. S—, daughter of a late chief magistrate in a neighbouring great city, afforded a very striking instance of the power of the muriate of lime, and excited the most melancholy reflections concerning the fate of children, entrusted, as they mostly are, to those inferior busy practitioners of medicine, who have neither information concerning improvements in that art, nor power of reflection enough to correct themselves, by dint of their own frequent and destructive errors.

This young lady, aged 13, had a very dilated pupil and slender make, in addition to personal appearances, nearly the same as those mentioned in the last case. I found her with unequally protuberant belly, which became remarkably large, as well as tense in the evening; she had wasted limbs, frequent loose stools, hectic fever, feet œdematous at night, short cough, and difficult respiration.

She had been under the care of a fashionable apothecary, who had condemned her to a diet strictly vegetable. He had lately proposed—I can assure the sceptical reader, that the family consists of persons of the fairest reputation, who all agreed in asserting, that this Achilles of an apothecary

had proposed—to subject a patient so extremely reduced, labouring under so well marked a disease of debility, to a small bleeding, *in order that he might see if her blood were inflamed!* I was in time to arrest the deadly stroke of the lancet.

In three days after beginning to take twenty drops of muriate of lime, which dose was gradually raised to sixty drops, the purging ceased. The appetite for animal food soon became strong, but natural. In nine days the feet ceased to swell; the hectic symptoms decreased; the cough disappeared in the course of the third week. In five weeks the forearm, accurately measured round the thickest part, had gained full three quarters of an inch; and at the end of the sixth week no appearance of disease remained.

In cases like this, the cure of the disorder has not been the only result of the treatment. By persevering in the use of the medicine for some months, and by a full diet of animal food, the constitution has become far more robust than it probably ever would have been in the natural course of things, if no such severe disorder had occurred.

CASE III.

A BOY, of eleven years, with a very scrophulous aspect, was brought to me. I found his submaxillary glands enlarged. The muscular debility, under a florid appearance, was excessive. He could not lift a weight at arm's length, which in a healthy boy of eight years, did not require an effort. On placing him upon his hands and knees, and then laying a load of twenty pounds, with a broad base, upon his loins, he complained of pain.

A two months course of muriate of lime, to which, as in other cases, a few drops of muriatic acid were added, to make it more palatable, effected a reduction of the swollen glands, rendered his flesh firm, and enabled him to support infinitely more exertion without fatigue. He could now bear seventy pounds upon his loins, without any inconvenience; and I did not wish to load him to the extent of his ability.

CASE IV.

LAST spring a young lady was placed under my care, on examining whose situation I was struck with despondency. The intelligent reader will perceive from the subsequent account, for the first part of which I am indebted to the father of my patient, Thomas Johnes, Esq. M. P. of Hafod, Cardigan-shire, that I had ample cause for this feeling.

“ 1795. M. J. had a worm complaint. The apothecary destroyed the worms, but was said to have left their exuvixæ behind, probably from want of purging physic.

“ 1796. In the spring carried her to London; put her under Dr. P——’s care. He gave her very strong calomel medicines, which carried away every thing. On her return, her aunt Eliza perceived she could not walk so well as usual.”

“ In September, Mrs. H. William’s maid perceived a distortion of the spine. I was at Cardigan assizes. On my return sent for Dr. Davies. He said there had been discovered a cure by Pott, viz. setons or issues in the back. He made two issues by the caustic of lime.”

“ Dr. Davies said, Jones’s spinal stays were good things, and wrote to him for a pair; which, however, were never put on.”

“ Mr. L——, surgeon in London, came to Ab-
 “ erystwith, from thence here. He approved of
 “ the issues; but said they must be enlarged. He
 “ enlarged them with caustic, so that each held
 “ nine beans. The patient suffered very much.
 “ In the beginning of winter we went to Bath,
 “ where Mr. L—— came to see her twice. He
 “ said nothing could do but the issues. She was
 “ under Mr. ——’s subordinate care at Bath, who
 “ did not seem to think she was going on well, yet
 “ did not choose to speak out.”

“ Mr. Earle coming to Bath, he was consulted,
 “ and said every thing was going on well; though
 “ to all our eyes she seemed very indifferent.”

“ Mr. L—— came again before we left Bath,
 “ and laughed at the idea of Jones’ stays; said the
 “ sea-bathing would effectually cure her, and or-
 “ dered her to be plunged in, the first warm day
 “ after our arrival.”

“ 1796. In the summer we came to Aberyst-
 “ with, and the sea-bathing made her so very ill
 “ and infirm, that on Dr. Davies being called in,
 “ he declared that Jones must be immediately sent
 “ for. He was so, and his stays had not been put
 “ on an hour before she could walk; though be-
 “ fore her legs were useless, and so insensible, that
 “ to all appearance a paralytic affection had seized
 “ on them.

“ 1797. We returned to Hafod in the autumn:
 “ We continued here, attended by Dr. Davies ;
 “ but in the spring a swelling appeared, which *all*
 “ the learned declared to be a Psoas abscess, nay a
 “ surgeon wanted to open it directly. But Dr. J.
 “ E. Smith being here would have Dr. Davies
 “ sent for, and he would have Mr. Abernethy
 “ come here. He did so, declared it a Psoas ab-
 “ scess, that was not yet ripe, but would be so in
 “ two months ; when he would return.”

“ All this year we continued very uneasy about
 “ this abscess.”

“ 1798. Remained at Hafod, with various
 “ hopes and fears. This abscess was dispersed, con-
 “ trary to the declared opinion of ———, who
 “ said it was impossible.

“ Don't let law claim alone a *glorious uncertain-*
 “ *ty.*”

“ 1799. At Hafod, sometimes better, at others
 “ worse. Attended, however, by Jones with his
 “ stays, this as well as the succeeding year.”

“ 1800. Early in the year a fortunate pleuritic
 “ fever seized her, which drove us to Bristol. The
 “ rest you know ; and thanks to you, under a most
 “ merciful Providence, she is restored.”

“ T. J.

“ Hafod, May, 1801.”

When I saw Miss J. I found, besides the curvature, a lymphatic gland in the arm, and a submaxillary gland in suppuration. The strength was excessively reduced. At Hafod, I was told, she had not been able of late to come down to dinner once a month. The pulse was 120. She had chills, heats, and regular night perspirations. A short dry cough was sometimes heard; and upon the smallest exertion, and sometimes without this cause, difficulty of respiration supervened, so severe, that I apprehended immediate dissolution. I concluded, from inquiry into all the circumstances, that the chief cause of this alarming dyspnoea was the debility of the muscles, concerned in respiration. I suspected tubercles also.

I knew nothing which I could oppose to this formidable complaint with so good a chance of success as the muriate of lime. I prescribed it with small hope; and when, in the course of three weeks, the family declared that every thing in Miss J's manner indicated amendment, the continuance of almost all the symptoms, except the alarming fits of breathlessness and the extreme debility, deterred me from sanctioning this opinion. But when, in about a month, I saw that the ulcerated glands had healed, that the difficult breathing occurred no more, that there was a sensible accession of flesh and strength, I could not hesitate to believe, that

the morbid state of the system had been somewhat corrected.

Besides the muriate of lime, (about a drachm thrice a day, in water, either acidulated with muriatic acid, or in weak infusion of columbo) Miss J. took a few doses occasionally, when oppressed by difficulty of breathing, of compound spirit of æther, with camphorated tincture of opium. One day only I ordered a few drops of tincture of digitalis; but on the occurrence of some unfavourable appearances, probably not owing to digitalis, I relinquished that medicine.

In six weeks the change for the better, insensible as it had been from day to day, became very striking upon the whole. Miss J. walked up and down from Clifton to the Hot Wells, without inconvenience. The pulse had become from twelve to twenty strokes in a minute less frequent than at first. The hectic fever was reduced to a slight moisture on the skin towards morning.

The medicine, for the sake of security, has been continued, except for a few days at a time, above a twelvemonth; and there was a constant improvement, till full health seemed restored. No interruption took place, except in December, from a few severe fits of nervous head-ache, which had probably no connection with the other complaint, and seemed to be removed, either by the *mineral*

solution, or by a sternutatory, to both of which recourse was had at the same time.

When the amendment was well ascertained and steadily proceeding, it occurred to me that the cure might be expedited, by the external use of the muriate; and accordingly a bath for the feet and legs, consisting of a pint of that salt, and about three gallons of warm water, was used once a day, for half an hour, for some time.

It is intended to persevere in the use of the muriate for a considerable time, but with longer intervals. No medicine has ever shewn greater efficacy; and whatever power the muriate of lime may possess to improve the constitution, the patient will have the benefit of it. We cannot forget how liable females of this temperament are to pulmonary complaints. And though we hope that in the present instance there is now no more than a common risk of consumption, yet, because some signs of pulmonary tubercles appeared last spring, as well as in pursuance of a general principle, we shall not for a moment, relax our vigilance, in guarding against so great a disaster.

This case, besides furnishing evidence for a particular medicine, appears to me to afford two or three instructive lessons.

I. The recommendation of the caustics was undoubtedly proper; and had I been consulted I

should have thought it unjustifiable, even though fully aware of the virtues of the *calx muriata*, not to have concurred in this proposal. It was also, I think, perfectly reasonable to enlarge them. But they were, in my opinion, most injudiciously persevered in. The pain and irritation they continued to produce have left an almost indelible impression upon the imagination of the patient.

As soon as I had acquired confidence in my own reasonings concerning these discharges in the case before me, I directed that what remained of them might be dried up: from which no inconvenience has resulted. Indeed, without waiting till 1800, from 1795 to 1797, might be deemed a trial long enough to give conviction of their inutility. And if it be allowed that they were fully tried, and found useless, (for it would be too much to give them credit for curing the supposed lumbar abscess, since they could not prevent it) the fact presents an unanswerable argument in favour of the opinion, that difference of result in the treatment of the sick, often depends upon difference of susceptibility and of association. The nature of the complaint was here too palpable to leave a doubt in the mind of any person conversant in such subjects. The difficulty of applying the diagnostics of nosology is small indeed, in comparison with the difficulty of divining susceptibility, and developing associations!

If I might presume to advise so ingenious and useful a body of men as the practitioners of surgery, I would, above all things, recommend it to them to have regard to the compass and variety of nature, as manifested in the human constitution. Otherwise they will sometimes find themselves in the condition of ignorant and impatient children, whose meddling hands having deranged a curious piece of art, are next employed in trying to rectify it. So on they push with main force in one direction, till it breaks. Whereas, had its construction been humoured, a touch would have put it to rights.

II. I hope that the deplorable effect of the rash prescription of cold bathing, will not be lost upon the givers and receivers of medical advice. Nothing is so dangerous to young weak persons, labouring under glandular complaints or threatened with consumption. By what I have formerly said against this baneful practice, some misery has been prevented in the world; and I have since received ample proofs of the propriety of my doctrine.

The following observation comes from a medical consumptive patient, by whom I have lately been applied to respecting his health: "It is extremely
 " odd, that it should never have struck me to men-
 " tion, in the original statement of my symptoms,
 " that previous to my first attack, last autumn, I
 " had bathed in salt water for weeks. And from

“ my feelings, compared with your remarks on the
 “ cold bath, I am satisfied, that had I not done so,
 “ I should have enjoyed a state of health very dif-
 “ ferent from what I now do.”

III. Medical men often ascribe an effect to a combination of causes, and often, perhaps, mistakenly. The paralysis, however, of the lower extremities, so quickly subsequent to sea-bathing, clearly shews, that the torpor from the cold water enabled the pressure from disorganization to do that to which the latter cause alone was inadequate. Again, when the pressure was partly removed by the machine, the nervous power returned to the lower limbs.

IV. If any one can harbour a doubt concerning the use of taking the pressure of the head from off the vertebral column, it will surely be removed by the immediate effect of the machine, which was so properly recommended in this case.

CASE V.

JOHN POWELL, eight years of age, having lost the sight of one eye entirely, and almost that of the other, by scrophulous ophthalmia, was so reduced in strength as to be unable to stand without support. In a week after beginning to take twenty drops of muriate of lime in sugared water, and raising the dose to forty-five drops, he could stand well without support. In three weeks more he has become able to walk a quarter of a mile, without inconvenience, and seems rapidly regaining his strength. I briefly mention this incomplete case, as a proof of the great and rapid effect of the remedy, where the disease strongly affects the muscles.

In distinct lumbar abscess I have not had an opportunity to try the calx muriata. But I have seen it answer well in large and deep scrophulous abscesses, accompanied by hectic fever.

My adherence to a simple plan has not always been so strict as to exclude calomel, digitalis, and vegetable *tonics*, as the decoction of the bark of the broad leaved willow, for instance, and other drugs. Some of these will, doubtless, be found to answer where the muriate of lime fails. But I believe this will be found superior to any one of the

others; and indeed, according to my present experience, it is of more value than all others put together.

Finding effects so beneficial from this medicine in scrophula, it could not escape me to inquire what would be its use in tubercular and in confirmed consumption. I have paid much attention to this question; and, I think, others will find their account in doing the same. But before I speak at large, I choose to accumulate more experience with the muriate of lime alone. I think that it removed tubercles, which had formed subsequent to the attack of pneumonia in 1800, in the case of Miss Johnes; and that it produced this effect in the case of Miss S——, (Case II.) I am as certain as I ever was of any change, not immediately the object of perception. But as the complaint here spread from the abdomen to the thorax, the tubercles might have been dispersed, in virtue of sympathy with the mesenteric glands. I have seen where the diseased salivary and lymphatic glands returned to their natural state, under the use of the *calx muriata*, while the symptoms of consumption came on or increased. But the same thing may sometimes be observed, independently of any remedy for scrophula; and this spring I had a patient under my care, in whom the sufferings from enlarged mesenteric glands subsided

repeatedly upon the enlargement of the salivary glands, and returned upon their detumescence. The change of seat of the most sensible part of the morbid action was as distinct, though not so rapid, as in gout or rheumatism.

In Master M. Pattison, aged thirteen, much marked with the small-pox, and of fair complexion, light hair and eyes, the respective effects of digitalis and muriate of lime have been remarkable enough to deserve relation, though the case is still in progress. The disorder, I believe, was either occasioned or aggravated by (not merely bathing, but) dabbling long at a time in cold water; of the baneful effects of which practice upon certain constitutions, it were to be wished that school-masters were generally apprized.

After a gradual falling off in health, M. P. was entrusted to a medical practitioner at Plymouth, to whom I owe the following satisfactory statement.

“October 6, 1800, M. P. was found to have frequent cough, short catching breath, pain in the side, heat and restlessness at night, with perspiration in the morning. The febrile exacerbations were strongly marked, but not regular in their recurrence; pulse feeble, 110; pupil dilated; cheeks subject to flushing. Hence tubercles in the lungs and mesenteric indurations” (from appearances not described) “were apprehended. On the 10th of

March, after exposure to cold, he was confined to his bed, with a pulse at 130, and increased pain of the side. He took antimonials, with calomel, and had a blister on the side. On the 16th, after a flow of perspiration, this accession of disease left him debilitated, with a pulse at 120, and a dry husky cough. Eight drops of tincture of foxglove were administered thrice a day, and increased by the 22d to thirteen drops thrice a day, at short intervals. The pulse ranged from 55 to 65, but was never stationary for an hour together.* The heat and thirst were gone. He complained of intolerable nausea and languor. These went off on substituting Griffith's mixture for digitalis with wine and animal food. December 24, he pronounced himself free from complaint, and his strength was returning."

On going to a different part of the country, he experienced some return of his complaint. Another medical practitioner now judged his complaint to be *tabes mesenterica* alone, and no digitalis was given.

* In the West-country Contributions may be found a numerical statement of the pulse, under the full action of digitalis at different times of the day and night. I have since always found equal variation: so that what is commonly given as the rate of the pulse, only holds of a particular part of the day; or else I have met with patients of particular habit, which I do not believe.

“In February he returned to Plymouth, with some degree of his former symptoms. The digitalis was given for six days, with the same beneficial effects.”

The digitalis, however, was not at this time persevered in, probably on account of its severe operation. From the 6th to the 14th of March it was resumed, together with pills, consisting of equal portions of kali, myrrh, and vitriolated iron.

On the arrival of this patient at the Hot Wells, on the 23d of March, 1801, he was extremely emaciated; too weak to dress himself in a morning, and very languid through the day. He could not walk above a few hundred yards at a time on plain ground without fatigue. Some days he had chills and heats; and almost every night more or less of perspiration.

When I first saw him, there were no symptoms of pulmonary tubercles in an active state, nor have any appeared since; that is to say, he had no dry teasing cough; he felt no pain in the chest, no difficulty of breathing, except upon exertion, and then it evidently arose from weakness; no inconvenience from lying in any posture. His pulse was 120; and he was much subject to flushings.

As he had had slimy and frothy stools, as the belly was hard and tense towards night, as pressure on the abdomen gave pain, and as the emaciation

continued, I judged this to be a case of *tabes mesenterica*. That there had been tubercles in the lungs, in an inflamed state, the history of the case appeared to me to prove; and I believe that the medicines before taken had so far preserved the patient. But they had not, in any degree, lessened the symptoms imputable to the mesenteric glands; and besides the articles particularized above, Mrs. Pattison tells me, that calomel was given at Callington for this express purpose.

The use of muriate of lime has increased the strength so much, that the patient is now perfectly able to walk from Clifton to Bristol, and back again. He rises alert, and feels strong all day. Those who have noticed him are struck with his improved appearance. There is no enlargement or hardness of the belly, nor pain upon pressure. The bowels are in a healthy state; the chills have entirely disappeared; the night perspirations have decreased to occasional moisture upon the skin in the morning. The pulse is still too quick (about 100) and there has not been an acquisition of flesh, proportionate to his amendment in other respects.

About five weeks ago, a cause exciting vehement fear, began to operate upon him, and this recurred frequently for above a fortnight. His progress was evidently checked; and for prevention of the hectic fever, he had now fifteen drops a day of tinc-

ture of digitalis. This was, perhaps, excess of precaution. But the patient had improved so much, before the use of the digitalis, was stationary during its exhibition, and has been so fast improving again since its discontinuance, as to make it evident that he is solely indebted to the muriate of lime for all the benefit he has received since he has been under my care. It seems to me equally certain, that the medicines he took before had made no impression on the diseased mesenteric glands.

The dose of muriate has generally been from forty to sixty drops. Eighty drops have produced qualms and sickness.

These feelings have sometimes appeared in other patients, and I consider them as the sign of an over dose. One patient, ill of tabes mesenterica, with other glandular affections, has baffled all my endeavours to administer this medicine. The patient is a girl of eight years of age. She has been greatly harassed by abdominal pains and sickness. The sickness was so increased by the smallest quantity of the muriate, as to render it impracticable to persevere in its use. No vehicle could reconcile it to the stomach. The external application produced the same inconveniences; and on attempting to give some of the substitutes mentioned below, I was equally baffled. My proposal of a caustic or

seton, on some part of the abdomen, has not hitherto been acceded to.

The muriate of lime can by no means be considered as one of the more dangerous medicines. Yet from the analogy of barytes, and from its occasional nauseating effect, I supposed that in a strong and concentrated dose, it would produce a fatal action on the stomach. To throw some light upon this point, I requested Mr. King to make the following experiment. The account of it is his.

“ March 24th, half past five P. M. I gave about three drachms and a half of calx muriata, *undiluted*, to a dog, about six months old, about two hours and a half after he had been fed. It affected him immediately with great violence, which appeared by quick breathing and snorting, convulsive, but vain efforts to vomit, and a profuse secretion of saliva. He often fell to the ground, but rose again. About half an hour after taking the muriate he seemed expiring, and during the next half hour gradually recovering; but would not take any water, though it was frequently offered him. He continued from that time lingering, and in about six hours he died.

“ 25th, I opened this animal, and found the whole of the thoracic viscera in a sound state. The lungs and diaphragm, however, were of a florid appearance, as might have been expected from the con-

vulsive efforts excited in the latter organ. The stomach, externally had no appearance of morbid alteration. The liver also looked healthy; the gall-bladder, and ducts were turgid, with an abundance of bile, of the usual taste and colour, with many whitish *fæculæ* floating in it. The contents of the stomach, and the whole of the alimentary canal, were as might have been expected in a healthy dog, except about twenty small *tæniæ* which were found in the jejunum and upper part of the ilium.

“The whole of the stomach, in its greatest convexity, was unusually thick. Towards the pylorus it appeared increasing in thickness rather beyond its healthy state, under similar distention. The villous coat was exceedingly bloodshot, even a great way down into the small intestines. In many parts it was almost black, and converted into a gelatinous slime, which could be taken off by the fingers with great ease. Neither the chyme nor chyle seemed in the smallest degree altered, by the muriate of lime, being perfectly insipid. The chyle was very abundant, and many of the absorbents turgid; but all the mesenteric glands were large and very hard, and the thoracic duct appeared to contain scarcely any fluid. From the animal’s emaciated state before the experiment, it should seem that these glands were previously diseased.”

This experiment will induce the prudent practitioner to increase the dose with caution, and to dilute the medicine. Probably a drachm of the muriate should not be given in less than an ounce of water or other vehicle. One invalid, notwithstanding its disagreeable effect on the palate and fauces, and in spite of my remonstrances, took it undiluted.

The use of the muriate of barytes in scrophula has been a subject of experiment for a number of years; and though aware that the history of that medicine, will, previous to trial, throw some disfavour on the muriate of lime, I am not deterred from recommending it by that consideration. The combinations of the alkaline earths, and of the alkalis with different acids, will readily occur as substitutes. Experiments on the effects of strontian, in comparison with barytes, shew that the salts of strontian may be very safely tried.

The experience of old medical writers gives me some faith in the salts, which they so much recommend as *deobstruents* in affections of the lower belly. My faith is strengthened by another consideration. As purges they probably produce an action, which is propagated to the mesenteric glands: given in a dose too small to produce any cathartic effect, they will produce an action or excitement, which can be long supported, as being followed by no debili-

ty; an action which may be to purging what the cordial operation of fermented liquors is to intoxication; and by this the glands may be brought to a healthy state.

It is certainly not by purging that muriate of lime cures *tabes mesenterica*, or any other scrophulous affection. I have scarce ever been obliged to lessen the dose on this account, but often to give aperients under its use.

THE END.

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