five pints. The tumor now appeared much less, and not so painful to the touch. She was ordered to continue her remedies, and to take three grains of the ioduret of iron thrice daily, as she appeared to be improving under its influence. Her cough was much abated, the breathing more free, her appetite improved, the bowels more regular, and the urine much increased in quantity; the pulse was reduced to 105; in fact, her general appearance was greatly altered for the better. I saw her again about a month after; she had regularly taken her medicine, and was much improved in appearance, but the fluid was evidently on the increase. I requested her to persevere with her remedies, and to let me know, should the fluid again require to be evacuated. Early in April the Rev. Mr. A., who lives opposite to my patient, called upon me, and told me that a very curious circumstance had occurred, which was, that my patient had literally burst, and flooded the room in which she was sitting. He had come over purposely to request I would go over and see her, which I did. On my arrival I found what he had told me was really the case; the tumor at the umbilicus had given way, and a great portion of the fluid had escaped. The neighbours were so much alarmed that they sent for a medical practitioner in the town; he readily attended, and secured the part with strips of adhesive plaster and a bandage. On examination I found that the tumor at the umbilicus had given way at the part where the ulcerative process had commenced; I secured it by means of a pyramidal plaster and bandage, passed several times round the abdomen. The tumor in the abdomen had diminished considerably; her cough had nearly disappeared; her breathing was perfectly free; the pulse was reduced to 95, her appetite good, the bowels regular, and the secretion of urine much increased; her general appearance was altogether much improved. I advised her to continue the medicine, increasing the dose of the ioduret to four grains thrice daily until I saw her again, which was in the beginning of May; she was then better, still the fluid had increased in some degree, but not to the extent it had done on former occasions. The tumor was diminished in size. She was ordered to persevere with her remedies.

I saw her again in June; she was so altered in her appearance that I scarcely knew her as the same individual. She said she had walked, on two or three occasions, about half a mile out of the town, and could make herself useful in the house, which she had been unable to do for upwards of three years. The fluid had considerably diminished, and the tumor also. I still requested her to persevere with the remedies, which she did until August, when I had the pleasure of seeing her at my house (in Ripon), so much improved in appearance as quite to astonish me. Once pale and emaciated in the extreme, she now bore the aspect of an individual in the enjoyment of sound health. I again examined the abdomen, and found the enormous tumor diminished to less than one-fourth its former bulk; the fluid had entirely vanished; the catamenia had appeared on two occasions; her cough had entirely ceased; the breathing was perfectly free; the appetite good; her bowels regular; the pulse natural; she had recovered her usual muscular appearance, and said she had not

been so well for some years. She had been out making hay during the summer, and felt no inconvenience from it. I advised her still to take one dose of the ioduret daily, which she did for some time.

She called upon me the following spring, and was in the enjoyment of good health. She told me that she had done all the work in the house for some time, had got up in the mornings at two o'clock to wash, and that she thought of commencing a school for the benefit of herself and children. I have seen her twice since the above period; the last time was on the 13th of September. She said that she continued quite well; the abdomen was reduced to its natural size; she is capable of undergoing her accustomed avocations without inconvenience; in fact, she declares that she never was in better health.

I should have given a more minute detail of the progress of this patient; but fearing I should occupy too great a space in your valuable pages, I thought it best to abridge it as much as possible.

Ripon, Oct. 6, 1843.

REMARKS

ON

DILATATION OF THE BRONCHI AND AIR-CELLS:

DR. G. C. HOLLAND'S VIEWS.

By J. S. WATERHOUSE, Surgeon, Sheffield.

The reply of Dr. Holland to our strictures on his peculiar views, relative to dilatation of the bronchi and air-cells, calls for a few observations. A more full enunciation of those views only more distinctly shows how untenable is their nature; and in his somewhat prolix attempt to defend them, he has laid himself open to a criticism far more severe than we are competent to undertake. The arguments which he adduces, if they serve his cause, must certainly have an ambidexterous faculty, for, in the eyes of any one else, they would seem in direct opposition to it.

We yield to none in respect—nay, veneration—for those great and honored names who have contributed to place medical literature in its present proud position, and have stamped on it the impress of the most transcendent genius; nevertheless, the interests of science require that such feelings should be merged in a zealous desire for its advancement, and that when we meet with error, though it be connected with great names, we should, if possible, strip it of all adventitious embellishment, and lay it bare in its naked deformity. The *argumentum ad verecundiam* is one of a dangerous character, since the history of science has taught us that men of the most comprehensive and erudite minds have at various times maintained the most crude and inconsistent dogmas.

The point at issue between Dr. Holland and ourselves is simply this:—He maintains that dilatation of the air-tubes is caused by the mere mechanical influence of an increased quantity of air being introduced into the lungs in a given time, and that this increased capacity is according to the “law in the animal system, that the development or enlargement of an organic apparatus is according to the exercise of it.” We, on the contrary, expressed an opinion that he had not given this law a sound and proper application; also, that the morbid state referred to re-

quired other conditions before the air could operate so as to dilate them. He says we have not clearly apprehended his views. This plea may be left for as much as it is worth, being a very common one, and frequently urged by the propounders of strange doctrines. There is nothing abstruse about them; they have two qualities—simplicity and error. He has strained the application of this law, given it a scope which it was never intended to have, and placed it where it has no jurisdiction. We maintained that the law referred only to the increase of *structure*, not of mere *capacity*—that its strict application was to *nutrition*, and that all development of *cavities* was a contingent, secondary, and not essential circumstance.

He even admits that an increment of space is "not an invariable result, but it is the rule rather than the exception." There may be an exception to a *rule*, but not to a *law*; one deviation, and it ceases to be a law. Dr. Holland thinks we have "overlooked the comprehensive character of this law," and that if we "had had an enlarged and just conception of the universality (?) of the law, a higher spirit of philosophy would have pervaded" our strictures. Unfortunately, "enlarged" conceptions are frequently anything but "just," and such "enlarged conceptions" too often run riot in the wide field of speculation, instead of adhering to the beaten track of sound induction. As illustrative of the comprehensive character of this law, we have the following:—"We had previously imagined that, when the principal artery of a limb is tied, the subordinate arteries take upon themselves additional action, in consequence of which they acquire a capacity several times greater than what is natural; that a vein, in cases of long-continued congestion of the venous system, has its capacity considerably increased; that the bladder in individuals who, from peculiar circumstances, frequently neglect the first suggestions of nature, has its capacity also permanently enlarged; that the stomach in gross feeders, and in persons whose pursuits, from the position of the body, interrupt or long retard the process of digestion, presents generally the same condition; and, lastly, that the heart, from inordinate action, is, in numerous instances, not only enlarged by the addition of new matter, but its several cavities likewise acquire additional capacity—in other words, exhibit an *increment* of space; indeed, this increment of space is the remarkable condition in passive aneurysm of the heart."

In disposing of this formidable array of argumentative evidence, it may be observed that there is the strictest analogy between the cases here adduced and the dilatation of the bronchial tubes, as to the mode of their production—viz., the exercise of a mechanical force independent of, though connected with, the exercise of the especial function of the part. The instance of the artery, we admit, does apparently tell against our doctrine; but it is more plausible than real. We prefer Dr. Holland to argue our cause. He says, in a succeeding column, "Neither the heart nor any part of the system is dilated by its own activity; the activity is always conjoined with another circumstance—the blood; and when the heart or any given artery loses its tone, or when the force exerted on the parietes from within is great, the subsequent dilatation is the consequence of this force. So it is

precisely with the bronchial tubes." This is enough. Such arguments are "fathers when for, children when against." He has unwittingly saved us the trouble of convincing him of his error. Assuredly he is in a dilemma; let him choose his horn.

In cases of "long-continued venous congestion," where the capacity of the veins is considerably increased, we submit there is no *increased* exercise, but a diminution. The veins are carrying, not containing, organs; so also with the bladder. Its especial function is by its contraction to expel the urine, and, where it becomes distended, it is from a diminished exercise of that function. Again, when any pursuit "interrupts or long retards the process of digestion," and thus causes expansion of the stomach, is that an increase of the function of the organ? And as for the heart, he has shown us that when it is dilated, it is from the influence of a mechanical force operating on its diminished tone. He adds, "Why an increment of space should occasionally take place in the heart, bladder, or stomach, without being accompanied by a corresponding development of parietal structure, is not easy satisfactorily to explain." We cannot, under correction, help saying that the explanation is as easy as any explanation can be which has reference to vitality. Dilatation of the heart may exist with *increased* development of structure, rendering the walls thicker than natural, or they may be of the same thickness as in health, there being yet an hypertrophied state; or with a *diminished* development, rendering them thinner than natural, which class also resolves itself into two kinds—viz., where the nutrition is equal to what it is in the normal condition—the heart being merely expanded—and where there is an actual defect in nutrition. In the latter case there is a diminished tone of the part, whereby the vital tissue is incapable of withstanding the mechanical impetus of the blood. Where this tone is healthy, the heart labors to overcome the obstacle, and from this very activity we have increased nutrition. The thickness of the walls, and the size of the cavities, will thus depend on the comparative ratio of force and vital resistance.

The consideration of the influence of the vital state of any organ, in reference to the operation of mechanical force, brings us to note Dr. Holland's remarks on our opinion of the cause of dilatation of the air-tubes. He regards the increased quantity of air brought into the lungs as the sole cause. We maintained that an alteration in the nutrition of the part was a primary cause, and spoke of a loss of elasticity in the non-muscular tissue from irritation, and in the muscular a loss of tonicity from want of nervous influence. He says, "These distinctions are pure assumptions on the part of the writer." We regret to see this statement. It can hardly be said to be consonant with the pathology of pulmonary disease, as ascertained in recent years. We shall not, however, occupy the pages of this Journal by filling a dozen columns with quotations to prove this. The readers of Andral, Stokes, and Williams, know whether these are our "assumptions" or not. We are highly flattered by the imputation, and, if we are in the wrong, it is in a goodly company. Dr. Holland will find in Dr. Stokes' writings our assumptions word for word.

Previous to dilatation of the air-tubes and cells, it is well known that for a long time the structure of those parts is in an irritable and inflamed condition. Indeed, Dr. Holland, describing the dilatation to the influence of the cough, presupposes the operation of other circumstances; and surely it is no great assumption to suppose that they will be altered by extensive diseased action. It is much to be questioned whether, in the normal state, the air, however powerful its impulse, would dilate the tubes, since, before such could take place, the thin structures of the cells would give way. He says, "The muscular tissue does not usually lose its nervous energy from excited action." It does when that excited action is long continued; irritation and inflammation first exalts and afterwards injures the contractile power of hollow organs. Indeed, there can be but little doubt that the loss of this contractile power is the cause of the difficulty of breathing and expectoration. Laennec observed, that in the case of persons who died from suffocation in sewers, that the lungs were very much distended, and would not collapse. Dr. J. C. B. Williams thinks that this may be owing to the paralyzing influence of the sulphuretted hydrogen on the muscular fibres—a supposition not at all improbable. Mr. Swan found that when the eighth pair of nerves were divided in the neck, the lungs were much distended with air—both of which facts are in accordance with the opinions before stated.

Analogical illustrations, if properly estimated, are of no little moment in scientific inquiry. The more we extend our views from particulars to generals, proceeding on a sound basis, disease hitherto so mysterious in its operations will become a more steady subject of philosophic investigation. It is a common principle that, in similar circumstances, the same causes will produce the same effects. The danger lies in mistaking things really different for things similar; but even this evil is outweighed by the consequent good. There is great similarity in the structure of all the containing organs in the body. There is generally a mucous, muscular, and cellular structure. It cannot, therefore, be regarded strange, on the axiom just laid down, if similar structures should be operated on in a similar way by the same causes. Dr. Stokes conceives that there is a strong analogy between the state of the bronchial tubes in dilatation and the intestine in ileus, the muscular tissue in both being the part affected—in which opinion he is joined by other writers. Dr. Holland seems somewhat amused at this. He cannot perceive the slightest analogy, even according to our views. He says, "The tubes, even if paralysed, are inevitably modified in form by every act of respiration. In inspiration they are expanded; in expiration they are contracted by the subsidence of the lung. It is scarcely possible to imagine any change in the structure of these tubes that would prevent them from being so influenced by the two acts of respiration;" and "to say that the air-tubes, modified in capacity by every act of inspiration, are analogous in their condition to the distended intestine, is to compare things so much unlike, we half suspect that some fine stroke of wit is intended." This is quibbling. The comparison made referred (and that Dr. Holland knows full well) to the abnormal state of the *structure* of the part, and

not to the peculiar circumstances of their functional duty. The mere fact of a hollow tube having its capacity altered by being pressed on from without, or dilated from within, is nothing particular. The intestine in ileus, or any other condition, would be acted on in the same way. One thing is certain, that although he cannot imagine any change in the structure of the tubes that would prevent them being so influenced by the two acts of respiration, there is a change which prevents them taking their proper share in that function; and also that these tubes, when rigid and hypertrophied, have their capacity very little, if at all, modified by the entrance of the air, and that the operation of external pressure is materially diminished. As to the charge of witticism, we plead not guilty. Wit is not our forte, and, should we ever be inclined to exercise that faculty, we shall select other and more interesting topics.

The remainder of Dr. Holland's remarks will not admit of criticism, being merely a repetition of the same opinions.

Our manner of expression does not seem to suit him. There is a bit of sly satire in placing the word "increment" invariably in italics, giving to it such a painful notoriety. However, he may rest assured that we can lay no more claim to the coinage of that word than to the "pure assumptions" whose paternity he generally awards us. We cannot hope to acquire that purity of diction and elegance of style which so uniformly marks his language; and although we feel that we can say of him, what Cicero said of one of his old friends, "*Qui sermo!*" we regret we cannot add, "*Quæ præcepta!*" Like the Thyrus of the ancients, his writings generally carry a weapon beneath the foliage; somehow its edge has become blunted. Indeed, highly as we respect Dr. Holland, and regard him as one who has done some good service to medical science, truth compels us to say that his recent communication is pervaded by a strange laxity of reasoning; an undue appreciation of some facts, an erroneous estimate of others; and this combined with an apparent unwillingness to receive as true, principles which more extended observation, and a better philosophy, have brought to light.

OBSERVATIONS

ON

MALIGNANT PUERPERAL FEVER.

By WILLIAM ENGLAND, M.D., Wisbech.

Since the first publication of the Provincial Medical Journal, its readers will have met with few cases of more painful interest than the five consecutively fatal cases of puerperal fever detailed by Mr. Fisher, of Bungay. Any medical man may have the misfortune to be suddenly called to witness a disease, no less destructive in its progress than the Egyptian plague or the Oriental cholera. Happily, puerperal fever of the malignant type seems to visit us at very distant intervals of time, the usual peritonitis which succeeds now and then the state of parturition being under the control of the ordinary antiphlogistic measures of treatment. Were it otherwise, the pyrrhonist would have ample grounds for scepticism as to the actual utility of our art. Like the soldier or sailor, the practitioner of me-