complete records of nearly three hundred cases of tumours, and to illustrate most of them with microscopic and other sketches. From such materials the statements I have ventured to make have been derived. But such materials are very insufficient. For example, as I have stated in the last lecture, I have had no good opportunity of examining an erectile tumour; of some others I have seen only one or two instances in the recent state; and some tumours, whose characters as described by good pathologists I cannot doubt, I have never yet seen.

"A good end, therefore, may be served by the publication of the lectures, if I have only shown where our knowledge is most imperfect, and where it may be readily improved if others will engage in the necessary inquiries, or will supply with more ample materials those who are engaged in them. While wishing for such help, I will not omit to thank many who have already given it; and especially my colleagues at St. Bartholomew's, whose cases I have been allowed to study and to publish, with all the advantages of their assistance." (p. 88.)

Art. II.

A Practical Treatise on the Management of Diseases of the Heart and of Aortic Aneurism, with especial reference to the Treatment of those Diseases in India. By Norman Chevers, M.D., Civil Assistant-Surgeon, Chittagong, Bengal.—*Calcutta*, 1851, pp. 145.

Dr. Chevers informs us that the present work is a sequel to his Essays on the Diseases of the Vascular System, which have from time to time appeared in the 'Guy's Hospital Reports' and in the 'Medical Gazette.' There is much judicious matter in the work; but we think the author would have done better if he had treated the diseases in detail, instead of clubbing all diseases, inflammatory and non-inflammatory, old and recent, together. The plan of the work is rather straggling, and from its want of method it would not be easy to discover the exact case we might be searching for, had we occasion to wish to know Dr. Chevers' opinion on any given point. We shall, however, analyze the treatise as fully as we can, since we are persuaded there is much in it that will interest our readers. But if our analysis is rather desultory, that is not our fault; Dr. Chevers' arrangement must bear the blame.

Dr. Chevers very justly remarks, that in the treatment of heart-diseases, we have always to take into consideration the reparative and compensatory processes consequent on any given lesion; and our treatment must often tend more to aid these compensative sequences, than to restore the heart to a perfectly healthy condition. A sketch of these adaptations constitutes the first chapter. In the second chapter the leading indications of treatment are thus given:

"1. To diminish, if possible, the valvular or other immediate causes of obstruction.

"2. To endeavour to remove all causes of impediment to the circulation existing in the lungs, abdominal organs, and capillary system generally.

"3. To lessen vascular distention, by reducing the bulk of the circulating fluid without impoverishing the system.

"4. To sustain or restore the power of the heart, and to reduce the capacity of its dilated cavities.

"5. To equalize the circulation, and to maintain free vascular action on the surface, by regulating the temperature, clothing, &c., and to provide due access of pure and well-oxygenized air.

"6. To remove and avert irritation and excitement of the nervous system, and to procure, as far as possible, rest and tranquillity of body and mind." (p. 13.)

These several indications are then discussed in as many chapters.

1. In the attempt to diminish valvular or other obstructions, it is of great importance not to confound old organic changes with recent endocardial deposits; it is only at the commencement of endocardial and arterial thickening, or when a fresh acute supervenes on a chronic attack, that vigorous attempts should be made to remove the deposits by treatment. If the case is clearly in its commencement, the effects of treatment will vary according as the obstruction is from fibrinous deposit in the sub-endocardial fibrous tissue, or from fibrinous coagula on the free surface. In the former case, absorption may occur with tolerable ease; in the latter, complete absorption is seldom to be hoped for. The diagnosis between these two conditions is not laid down by Dr. Chevers with any great precision, nor indeed do we think that precision is possible.

"The sounds will often assist us in deciding upon this point. It is evident that the irregularity of the surface over which the blood has to pass, is infinitely less when the deposit is sub-endocardial, than it is when the free lining membrane is affected; and hence, whenever a discordant, harsh, musical, or in any way singularly-intonated systolic sound is produced in coincidence with other symptoms of endocarditis, and with great hurry or distress in breathing, in a heart which has been previously healthy, the existence of elevated inflammatory deposit upon the surface of the endocardium may be judged with a good degree of safety; while should a diastolic bruit become superadded, the presence of massive clots, either with or without perforation of the valves, becomes highly probable. In ordinary cases of rheumatic endocarditis, the valvular bruit is of course single; and although occasionally rather sharp, it is usually smooth and even in its tone. The constitution of the patient, however, generally affords the surest means of discrimination. When a young person of fairly sound constitution, after violent exertion, or under an attack of rheumatism, suddenly becomes the subject of an ordinary systolic arterial bruit, unaccompanied by the evidences of reflux, it may almost invariably be decided either that the obstructing deposit is sub-endocardial, or that the impediment is formed by those small fringes of vegetations, which, as I have elsewhere endeavoured to show (Guy's Hospital Reports, vol. vii.), are growths from the endocardial surface. Whenever, on the other hand, the subject of rheumatic or of any other form of endocarditis or arteritis is of broken and cachectic constitution, suffers from organic renal or hepatic disease, or is the victim of irregular and intemperate habits, the deposition of fibrinous masses upon the free surfaces is the result to be naturally looked for; where, as usually happens in hospital cases, the previous state of the heart is unknown, these tests of course become of only partial validity, and can in fact merely assist the physician in guessing rather than in diagnosticating." (p. 17.)

We do not see, however, that an absolute diagnosis can be ever attained; and the duration of the disease and the condition of the patient must be the main guide for the activity of the treatment. This treatment, according to Dr. Chevers, should be:—

"The most careful preservation of bodily and mental tranquillity, a judicious maintenance of the bulk of the circulating fluid at the lowest possible standard consistent with proper nutrition and good health; and the long-continued employment of very cautiously conducted and mild courses of mercury, alternating with courses of iodide of iron and iodide of potassium, are our leading indications of treatment with a view to produce the desired absorption." (p. 21.)

The mercury and the iodine are to be given in very small doses. Great care is to be taken to avert every cause likely to occasion the supervention of acute on old endocardial disease.

In the treatment of fresh acute cardiac diseases, Dr. Chevers remarks, that while prompt and decided measures are necessary, heroic treatment is out of the question. The local inflammation is, he thinks, "merely the outbreak of some poisonous agent with which the system is pervaded almost to saturation." He deprecates large bleeding, and recommends local depletion, blistering, calomel, colchicum, and antimony. Mercury he would carry to gentle salivation; but he does not refer to Dr. John Taylor's late observations on the effect of this remedy in pericarditis.

Dr. Chevers incidentally refers to the complication of endocardial disease with rheumatism in India. After alluding to the observations of Webb, Geddes, and Bird, which are, however, incomplete, he comes to the conclusion that although acute articular rheumatism is common in Bengal, "there appears to be every reason to believe that rheumatic heart affections must occur very far more rarely in this country than they do in Europe." (p. 38.) His own materials on this point do not, however, appear to be extensive; and that heart-disease will attend acute rheumatism in Hindoos, appears from two well-marked cases referred to in a note at p. 37. We do not think that there is sufficient evidence to enable us to make any final decision on the point; but from one or two facts which have come to our knowledge, we should not be surprised to find that heart-disease and acute rheumatism are as intimately associated in India as in this country. Certainly the evidence does not warrant Dr. Chevers' conclusion; nor do we hesitate altogether to dissent from his explanation of this alleged difference between the accompaniments of rheumatism in England and in India—namely, "that the association of cardiac disease with acute rheumatism is a pathological *accident*," and "of comparatively recent occurrence."

"If this unhappy complication has always been liable to occur," writes Dr. Chevers, "it is one of the most inexplicable facts in the history of medical literature, that it should not have been generally noticed until it was observed by Dr. Pitcairn, in 1788. In the absence of fuller evidence, it may not be too chimerical to believe that, in India, the accident is still comparatively infrequent." (p. 39.)

This line of argument seems to us to be of no value whatever. The infrequency of post-mortem examinations until within the last fifty years, and the inadequate method of investigation possessed by physicians, prior to the discoveries of Avenbrugger and Laennec, are quite sufficient to account not only for the non-recognition of the connexion of endo- and peri-cardial diseases with acute rheumatism, but for the prevalent ignorance of the existence and course of heart-affections generally. Many rheumatic heart-affections are, at their commencement, unattended with any severe and striking local symptoms, and would in fact be altogether latent were it not for the stethoscope. The wonder is, that the connexion was recognised so soon, not that it was not recognised before. It is certainly not impossible that acute rheumatism may run its course in India without implicating the heart, but we cannot consider that so important a pathological fact is yet established; and to receive it as if it were established, and, for the purpose of explaining it, to degrade rheumatic endocarditis to the rank of an *accident*, is certainly premature.

After discussing this question, Dr. Chevers alludes to another of

considerable interest, and on which we find ourselves entirely of his way of thinking. It has been lately contended by Mr. Simon, that the valvular diseases occurring in rheumatism are simply caused by "fibrinous precipitation from an overcharged solution," and do not arise from inflammation of the endocardium itself. That such deposition may occur in certain cases, we are not disposed to deny; but to refer all the pathological appearances of rheumatic endocarditis to this cause, is not a tenable position. How under this hypothesis are we to account for the *sub*-endocardial deposits so frequent in these cases; for the occasional uniform smooth thickening of the endocardium, and for other changes of softening and laceration which could never arise from deposition merely? There are certain cases of vegetations, in which we can conceive that direct deposit from the blood might account for the appearance, and is indeed their most probable explanation; but we doubt whether the extension of the hypothesis to all cases of rheumatic endocarditis be possible. Mr. Simon's experiment of passing a thread through a vein and artery, appears to us to tell very little in favour of his opinion.

Dr. Chevers makes the following very sensible observations on this point:

"In every case of true arteritis and endocarditis which I have examined, there have been as distinct traces of what we call inflammation behind the epithelial lining (but quite apart from the contractile coat) as upon its surface. Further, it appears that large fibrinous concretions upon the free surfaces are extremely rare attendants on rheumatic endocarditis. In this disease the principal morbid changes are interstitial; clots may adhere when the patient is very cachectic, and they are usually present where the structure of a valve is broken up; but in how many cases, where death results from the consequences of rheumatic endocarditis at periods of two, five, or ten years subsequent to the acute attack, is fatal obstruction found to have been owing to the presence of fibrine *upon* the valves? Clots of comparatively recent date, and crops or fringes of minute elastic vegetations, may adhere to the altered structures, but these will not be regarded as the main cause of death; it is the insterstitial disease, the hardening, shortening, and contraction of the fibrous tissue below the surface which has killed. I have always held (and I believe that the opinion is an old one) that the fibrinous masses which are found covering parts of the diseased surfaces in endocarditis and arteritis, are deposits from the blood attached to portions of the lining membrane which have been altered by inflammatory lesion." (p. 42.)

2. The second indication in the treatment of cardiac affection, laid down by Dr. Chevers, is to remove all causes of impediment to the circulation in the lungs, abdominal organs, or capillary circulation generally.

"The occurrence of death from causes confined to the heart itself is," says Dr. Chevers, "a comparatively rare event. In the generality of fatal cases, life is cut short prematurely, either by the outbreak of acute disease in other organs, or by the super-addition of diseased actions of a more insidious character to those gradual deteriorations, which the fixed error of the circulation is itself imperceptibly working. It is especially the pulmonary and hepatic structures which suffer under these circumstances." (p. 47.)

The measures which are to be employed in removing these pulmonary and hepatic affections, vary somewhat according to the nature of the cardiac affection. When the obstruction arises from original thoracic malformation, or defective thoracic development, little can be done except in the way of palliation. The *removable* physical causes of impediment to

the circulation, external to, but dependent on, the heart, either *per se*, or conjoined with other influences, such as cold, influenza, indigestion, &c., are bronchitis, pneumonia, certain diseases of the pleuræ, congestive disease of the abdominal viscera, ascites, and general anasarca.

"Caution," says Dr. Chevers, "is required in laying down any absolute rule with regard to the measure of treatment to be employed in cases where acute pulmonary disease occurs as a complication of old cardiac lesions. The management must chiefly depend upon the peculiarities of individual cases. Still it will generally be found that, here, the treatment must be conducted with the most cautious reference to the broken state of the patient's constitution. The heroic systems of treatment can be borne only when every vital organ still retains the essentials of integrity. Without drawing a parallel between the two conditions, it may be safe to say that there are few, if any, cases of acute lung disease supervening upon advanced heart affection, in which it will be found safe to use stronger measures than we should employ in quelling acute pneumonia or pleurisy in a phthisical patient." (p. 60.)

In addition to the usual remedies of moderate local bloodletting, counter-irritation, small doses of calomel, antimony, and ipecacuanha, mild evacuants, and diuretics, Dr. Chevers recommends strongly a restriction to be laid on the use of liquids. This is a favourite measure of his, to which we shall have to refer more at large presently.

When hepatic congestion is consequent on, or is aggravated by, heart-disease, blue-pill, taraxacum, the compound decoction of aloes, with temporary abstinence from animal and saccharine food, and from fermented liquors, is recommended. Dr. Chevers objects strongly to hydragogue cathartics in cases of portal congestion, whether attended with dropsy or not:

"I have seen the entire mucous tract of the small intestines perfectly œdematous, in a case of dropsy, where purgatives had been freely given shortly before death; and I believe that this is too often the state which attends those copious 'serous dejections,' the production of which some writers on dropsy allude to with so much satisfaction. Elaterium is always inseparably associated, in my mind, with mortal dropsy. Well-selected laxatives and gentle purgatives are absolutely required to relieve the constipation which attends heart-disease and portal dropsies; but the use of violent cathartics, with a view to the removal of effused or intravascular fluid, should, I feel assured, never be had recourse to except as a rare and almost extreme resource."

We cannot agree with this opinion; nor do we see why, if hydragogue purgatives are hurtful in moderate cases, they can become useful in extreme. That elaterium should be used with the greatest caution, cannot be doubted; but that Dr. Chevers should have been led to associate its use invariably with *mortal* dropsy, causes us some surprise. We should have thought every one had seen extraordinary effects from its use, both in cardiac and in renal dropsy.

3. The third indication is to reduce the bulk of the circulating fluid without impoverishing the system. This is exactly what most practitioners aim at by the administration of elaterium, bitartrate of potash, &c.; but Dr. Chevers would rather attain it by a limitation of the fluid and solid ingesta, by the production of diaphoresis and diuresis, and by the occasional employment of *small* bleedings.

In advocating the first method, Dr. Chevers does not wish to enforce starvation, but simply a systematic spare diet, as far as solids are con-

cerned. But with regard to fluids, he thinks that, as a general rule, men in health are in the habit of taking much more fluid than is necessary for the wants of the system.

"There can be no doubt that, both in hot and cold climates, a large proportion of very temperate individuals convert their bodies into mere filtering machines, by the excessive imbibition of water, tea, and other diluents, greatly to the impairment of the tone of their stomachs, skin, and urinary organs. Judging by my own experience, a man of spare make, weighing between nine and ten stone, will not require more, on an average, than one pint and a half of liquid during the twenty-four hours, in cold or temperate weather, and will scarcely be compelled to exceed an average of two pints in a hot climate. In the case of a sedentary invalid, the function of whose skin is not preternaturally excited, it is not impossible to reduce the supply of fluid considerably below these standards." (p. 73.)

Such abstinence from fluids is no doubt a powerful measure; whether it is of use in such cases as are here referred to, can only be determined by actual observation. The plan of denying water to dropsical patients is a very ancient one, but the extreme difficulty of keeping patients to so severe and painful a regimen has much contributed to its disuse. We are quite unable to speak from personal experience of the value of such a system in cardiac disease, but we shall not hesitate to try it, on Dr. Chevers' recommendation. But in referring to this method of treatment, Dr. Chevers has touched on the very important question of the effect of water on the system generally,—a much more extensive subject than that of the influence of water on cardiac diseases alone. We do not think that his opinion, that evil must result in the most temperate individuals if an excess of water be taken, is at all borne out by facts. The primary effect of cold fluid on a healthy stomach is not debilitating, but the reverse. The fluid does not remain in the stomach; it passes into the circulation; and if liquids thus enter the system in excess, we know that in healthy persons they are removed with extraordinary rapidity. Able physiologists even fancied, some few years ago, that there was some "short cut" between the stomach and the kidneys, so rapidly did these organs act when the stomach was filled with fluid. We cannot conceive that there could be any injurious repletion of the vascular system, in persons whose kidneys, skin, and lungs are all sound. If fluids are not injurious in quality, which is their main fault, we cannot readily believe, that unless pushed to great extent, they can be hurtful in quantity. If a man will keep to harmless liquids, he need not surely limit himself to Dr. Chevers' rather scanty portion, if he feels any desire to take more. Limitation in the quantity of liquid would, we conceive, be worse than excess of quantity. Not only does the system require a vast amount of fluid for its continual changes, but without a certain amount it is probable that there would be an insufficient elimination of effete products. Some of these effete products, as urea, are so very soluble that they will pass out with almost any quantity of water; but uric acid, some salts, and the so-called extractives of the urine, are much less soluble. A certain quantity of water is necessary for their elimination, perhaps also for their formation. At least, when immense quantities of water are taken, as in the so-called "water-cure," the absolute quantity of solids excreted by the urine increases, and water in this case seems to augment the decomposing processes going on in the body. So

convinced are we of the importance of the action of water in the system, that unless experience, which in medicine is our great guide, clearly proves the advantageous effects of abstinence from fluids, we should enforce such abstinence with caution. We should be sorry to see re-introduced into medicine, without sufficient evidence of its utility, that habit of disregarding the natural craving for fluids, and of basing their administration on some fanciful hypothesis, which was only a few years ago very common in this country. These observations, however, have incidentally grown out of Dr. Chevers' remark. His position, that congestions of the lungs and liver, consequent on cardiac affections, are benefited by limiting the supply of fluids to the system, rests on its own ground—viz., the assertion of one who is undoubtedly a very trustworthy authority.

The following remarks on the employment of diuretics in cardiac affections are very judicious. After observing that diuretics usually act well and safely in early cases of obstructive heart-disease, before the kidneys become congested, he goes on to say:

"Unfortunately we are usually called upon to require the aid of the kidneys at a stage of heart-disease and dropsy, where the efficient action of these and other excretory organs can least be demanded. There are few more difficult cases than that of a person who is the subject of advanced cardiac obstruction, attended with bronchitis and serous effusion. Here it will generally be found that the urine is high-coloured and scanty, the bowels torpid, the skin dry, the secretion of bile defective, and transpiration from the pulmonary exhalents impaired by the diseased state of the bronchial mucous membrane; in fact, that every natural outlet for the pent-up fluids is obstinately closed. This is a crisis at which a full bleeding from the arm, a brief course of digitalis, or of squill and juniper, or a dose or two of elaterium, would prove a direct and almost infallible means of dispatching the patient to his grave *secundum artem antiquorum*. Provided anything can be done here,—and it happens, fortunately, that, in many instances, our means of aid are not wholly exhausted, even at this unhappy conjuncture,—the disentanglement of the morbid complications becomes a somewhat knotty task, and no ordinary caution is required in deciding which organ should be first selected with a view to attempting the restoration of its functions. A fatal error will be committed if we at once endeavour to act upon the kidneys; their state of congestion cannot be relieved so long as the liver and the heart are gorged with blood and the skin remains inactive, or while the organs themselves actually suffer from the pressure of large ascitic effusion: under these circumstances all diuretics become local poisons. The organs are for the present physically incapable of being excited to healthy action, but their susceptibility to irritation and inflammation is increased tenfold. The safest and most physiological course, I believe, is, first, to endeavour to restore and to excite the action of the skin. A well-managed plan of active diaphoretic treatment can now scarcely be attended with danger. At the same time, mild expectorants and aperients may be employed, but with a less sanguine hope of present success. A strict limitation of ingesta will tend to relieve the heart, and to reduce the hepatic congestion; and then, as the skin begins to act freely, and dyspnœa and palpitation become somewhat abated, a certain amount of relief to the kidneys may be anticipated, providing the congestion of these organs is not associated with advanced structural disease. This tendency to restoration of function may be aided by local abstraction of blood, the application of heat, counter-irritation, dry-cupping, &c." (p. 81.)

Small bloodlettings are recommended in some cases of obstructive heart disease, when acute catarrh or pneumonia supervenes, and when the already dilated and incapable heart becomes over-distended with blood. Here the organ must be relieved, or the patient dies. Yet these cases are

often most difficult, and bloodletting becomes in some cases literally a kill-or-cure remedy. Dr. Chevers recommends that if it be resorted to, the blood should be drawn from a *small* orifice, and the patient should lie with the head low. He should be most anxiously watched, for, as Dr. Chevers remarks, syncope is fatal. So dangerous sometimes is general bleeding, that in the majority of cases the relief of the over-distended heart should be attempted rather by leeching or cupping over the præcordial region, than by opening a vein.

4. The fourth indication for treatment is to maintain or restore the power of the heart, and to reduce the capacity of the dilated cavities.

It is well known by practitioners, that the most unfavourable condition into which the cavities of the heart can pass, is dilatation. An increase of cavity, unattended with proportionate increase of walls, accompanied, as it almost always is, by structural changes in those walls, is the condition most to be feared in all cases of organic heart-disease; for it is in such a condition that the circulation is most inefficiently carried on, and that stagnation of blood, either in the heart or in some portion of the capillary system, is most common. The converse condition—increase of thickness and power of the walls, as compared with the cavities—is, on the other hand, comparatively speaking, a not unfavourable state of things; for the circulation is by this means still carried on with sufficient integrity to preserve the system from local congestions. Such hypertrophy, consequent as it generally is on obstruction either at the orifices of the heart or in the course of the circulation, is a compensatory change, and is obviously the way in which the altered condition of circulation consequent on the obstruction can be best remedied. A treatment which would aim at preventing such a compensatory increase of power, would evidently be mischievous; and the best practitioners are well aware of this fact, and anxiously avoid any course of excessive lowering and sedative treatment which may tend to convert hypertrophy into dilatation.

But although such hypertrophy is not to be *prevented*, or is even in certain cases to be encouraged, there can be no doubt that in a great number of cases it requires to be *regulated*. It is not always an unmixed good, and, without guidance, may even produce as much evil as that for which it is considered a remedy. For example, let us take a case of rheumatic endocarditis which has injured the aortic valves, has thickened them, and produced obstruction, without permitting regurgitation. The left ventricle enlarges and becomes stronger, as an inevitable consequence, provided the system is tolerably healthy. Such an increase, as permitting the circulation to be carried on in spite of the obstruction with as much vigour as before, is a benefit, and is, with certain provisos, to be encouraged. But suppose that, at the same time, the endocarditis has affected the mitral valve, has produced sub-endocardial exudation and supra-endocardial deposition, and has rendered the valvules soft, yielding, perhaps even fragile? The hypertrophy, which is a compensation for the obstructive aortic valve, is then an additional cause of damage to the mitral. The treatment here is obviously not to allow a sudden and rapid hypertrophy, but to run the risk even of impeded circulation from the aortic obstruction (which may, however, generally be prevented), in order that the changes in the heart may go on as slowly as possible, and may produce the greatest

amount of compensation, without injury to enfeebled textures. In the case simply of aortic obstructive disease, it may be the proper treatment to strengthen the heart at once, by exercise, by tonics, and stimulants, and the like measures; in the case of aortic and mitral, the treatment may be very different, and the tendency to rapid growth of the left ventricle may have to be repressed by rest, by small bloodlettings, even by sedatives. The difference between the two cases is very great, and illustrates forcibly the importance of distinguishing these valvular diseases, the diagnosis of which is considered by some an unnecessary refinement.

In addition to this, we believe that, even in obstructive aortic disease, when the hypertrophy is really, abstractedly, a great benefit, it may sometimes be produced too rapidly, and may require to be regulated. The general state of the patient, as well as the action of the heart, will soon inform the practitioner that the heart must be quieted.

That hypertrophy is in these and in many other cases a morbid condition, and requires treatment, is the opinion held, we believe, by the majority of those who have considered this subject. That hypertrophy is also a compensation and a salutary sequence in certain cases, is also well known. In each case the practitioner must judge for himself of the amount of encouragement or of repression that may be required.

Dr. Chevers, however, does not coincide in these views. He looks on hypertrophy as invariably a compensating change, so completely divested of any evil consequences, that it is never to be regarded as a disease. In answer to the question, "Is hypertrophy a morbid condition?" he writes as follows:*

"As this opinion appears to have led to nearly all the erroneous systems which have been adopted in the treatment of cardiac affections, it will be worth while, before proceeding further, to inquire whether this hypertrophy ever has a separate existence; *whether it is a disease at all; whether it should ever be 'treated' at all;* whether, indeed, it is not, in all its degrees, to be regarded as approaching, as nearly as any mere reparative provision can approach, *to an absolute condition of good;* the removal or diminution of which (apart from the removal of its causes) would *never be productive of benefit,* but, on the contrary, would generally be the means of withdrawing the chief preservative adaptation, which often for years guards the victim of heart-disease from almost instantaneous death." (p. 87.)

Subsequently Dr. Chevers writes:

"I have not seen or heard of any case in which it was demonstrable that excessive muscular development and strengthening of the walls of the heart existed otherwise than as a compensation for impediments of some kind, or for the weakening attendant upon temporary or permanent dilatation of its cavities. Nor have I been able to meet with a heart in which the amount of hypertrophy appeared to be more than compensatory for the coincident dilatation or impediment. Whereas, in nearly every complete case, the symptoms during life, as well as the sum of the morbid appearances, rendered it almost a matter of demonstration that the amount of hypertrophy was not, and had never been, fully sufficient to counteract the impediment or embarrassment to which the organ was subject." (p. 89.)

The practical conclusion from these views is—

"*That an error of the gravest description is involved in every direct attempt to remove or 'cure' cardiac hypertrophy. Our efforts should tend solely to the removal of the cardiac or vascular dilatation,* to which the hypertrophy holds merely the relation of a partially compensating provision." (p. 96.)

* We have *italicized* a few words to mark the extent of the opinions.

We believe that the exclusiveness with which this view is held makes it erroneous; nor do we in the least accord with the view that the compensating hypertrophy is always an exact compensation, and no more, for the obstruction. That it is so in some cases we do not doubt. Every one has seen cases of obstructive aortic disease, in which for years the left ventricle has gradually gone on enlarging and thickening in such exact proportion to the increased necessity for strength, that the patient has suffered no inconvenience in any way, and has never even suspected that his heart was diseased. In such cases the balance has been so truly observed, that no treatment could have changed matters for the better. But in many other cases it is otherwise. The heart does decidedly act too much; and that it does so is proved, not only by the evidence of its own violent action, and by the general suffering of the constitution, but by the relief which tranquillity and the judicious use of sedative measures immediately produce.

Dr. Chevers has some other opinions about hypertrophy, to which we must take exception. The following quotation embodies an opinion which has been formed apparently to support his favourite notion of the uniformly beneficial effects of hypertrophy, but which only shows how a preconceived notion will lead away even an acute and able reasoner. In speaking of the intricate subject of heart-disease and cerebral apoplexy, Dr. Chevers thus writes:

"Arterial cerebral apoplexy not unfrequently occurs *in association* with hypertrophy of the heart. The same causes, especially an excess of circulating fluid, tend to produce both, and the state of the heart may, in some cases, be immediately operative in occasioning the effusion. I believe, however, that this accident occurs far less frequently than is generally supposed. We are called to a patient suffering from apoplexy; he lies motionless and stertorous, and his heart and arteries beat with a rapidity and a vibrating force which it is almost terrible to witness; respiration becomes seriously interfered with, and the patient almost inevitably dies within a few hours. He is found to be the subject of a *central* apoplectic effusion, and his heart is perceived to be unusually large and strong. This is rather a frequent case, and the recollection of the violent action of the heart almost invariably convinces the inexperienced observer that the arteries of the brain were ruptured by the prodigious impulse of the bulky heart. This, however, in all probability, was not the true order of events. The singular disturbance of the heart's action, and the subsequent death from suffocation, were alike the results of the central cerebral lesion, more or less immediately involving the respiratory tract, and causing a fatal interference with the nervous supply of the heart and lungs. This palpitation resulted from the apoplexy, and did not precede or occasion it." (p. 95.)

It does not appear to us that this case is put clearly. We understand the main difficulty to be the recognition of the connexion between a bulky, constantly over-acting heart, and the final apoplectic effusion. Dr. Chevers argues the question as between the violent action which is coincident with the apoplectic effusion, and this effusion. The question is, in fact, evaded, or rather concealed behind another matter much less obscure and difficult. It was necessary for Dr. Chevers, admitting as he does the association of the lesions, to show that the state of the heart operated in producing cerebral hæmorrhage, only in so far as it hindered the free return of blood, and not by sending an augmented current to the brain. As the matter at present stands, the very important point of the influence of an hypertrophied left ventricle on the brain is much too cursorily dismissed.

As hypertrophy cannot, according to Dr. Chevers, be excessive, all sedative treatment is considered inadmissible in cardiac affections, and the great rule to be, to strengthen the heart by all means. Digitalis receives a most unqualified condemnation. We are not at all disposed to agree in these general rules; and however important it may be to strengthen the heart in many cases, the observation of every practitioner must convince him that there are cases where sedatives, and even digitalis, are most undeniably useful. In fact, the numerous variations of cardiac affections cannot be cramped up within a single rule. It may be true that, in the majority of cases, the indications are to strengthen and excite and not to tranquillize the heart; but there are cases in which the latter measures must be employed, as we are certain Dr. Chevers will some day admit.

The fifth indication is "to equalize the circulation and to maintain free vascular action upon the surface by regulation of temperature, clothing, &c., and to provide due access of pure and well oxygenized air." These measures are so obviously useful, that we need not dwell upon them.—The sixth indication is to avoid irritation and excitement of the nervous system, and to procure, as far as possible, rest and tranquillity of body and mind. On this we may make the same remark.

The last chapter of the book discusses the treatment of aneurism of the aorta. Dr. Chevers recommends the reduction of the volume of the circulating fluid, the maintenance of the muscular power of the heart, and of a free circulation through the vascular system generally. He does not advise depletion to reduce the volume of blood, but directs this to be done by cutting off the supplies of food and fluid, and by moderately acting on the skin and kidneys. To maintain the power of the heart, tonics are given. Dr. Chevers also advises the "encouragement of *thin* layers of plastic coagulum within the aneurismal sac." (p. 136.) This is to be done "by tranquillizing the circulation and by keeping the blood in as highly organized a state as possible." (p. 138.) But, unfortunately, we are not told how this is to be done.

We must, however, now take our leave of Dr. Chevers, with the assurance that we have read his book with profit and pleasure, although there are many points on which we take the liberty of differing from him. We would advise him, however, to leave general principles of treatment alone, and to busy himself in collecting observations in that magnificent field which now lies open before him. He possesses observant powers of no ordinary kind; and if he exert them judiciously, he cannot but add greatly to our knowledge of Indian diseases. But in order to do so, we would beg him to lay aside all reasoning about phenomena of which we know only part, and to busy himself with gaining as accurate a knowledge as possible of the phenomena themselves.