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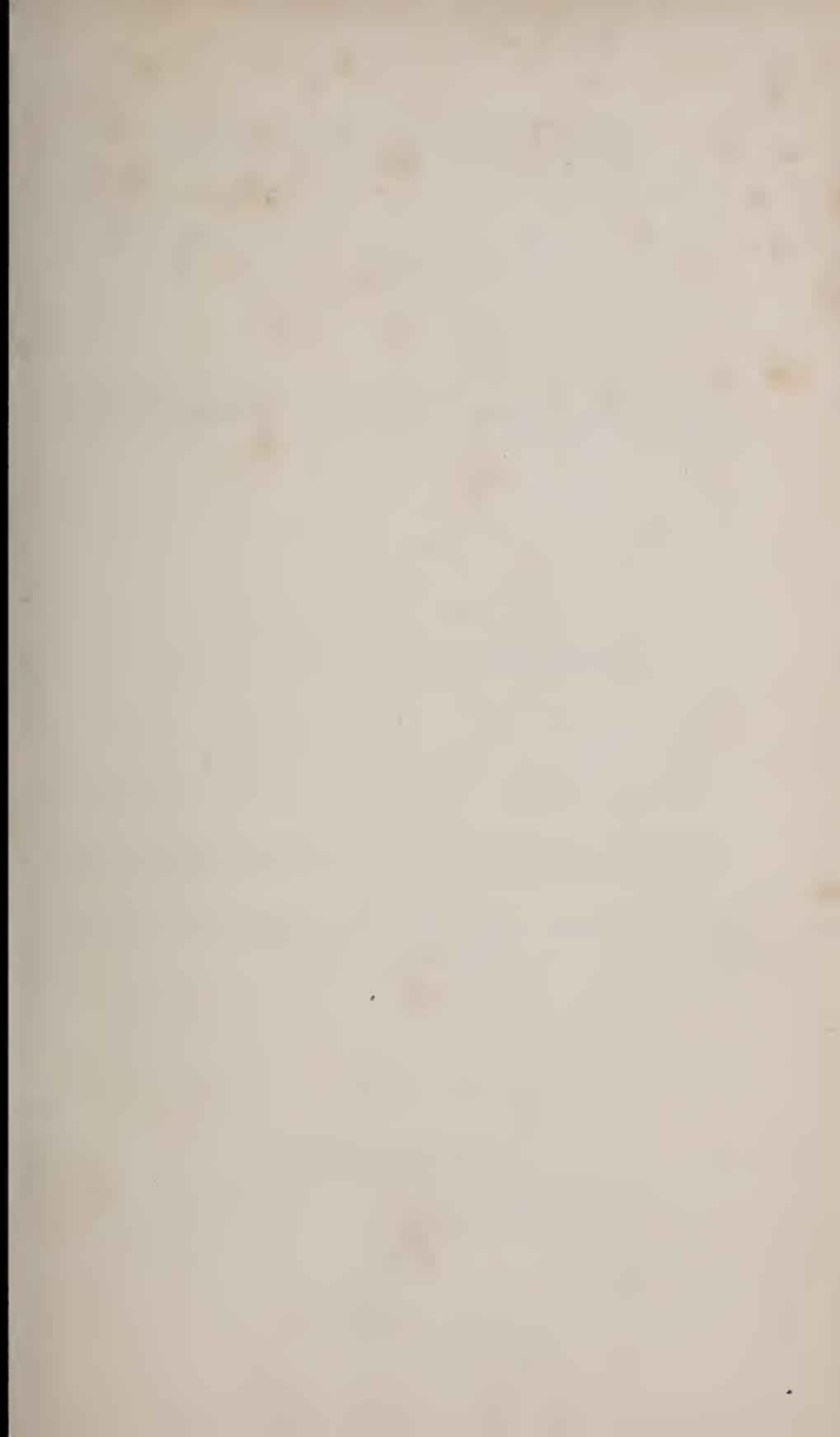
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GOD IN DISEASE,

OR THE

MANIFESTATIONS OF DESIGN IN MORBID PHENOMENA.

BY
JAMES F. DUNCAN, M. D.,

PHYSICIAN TO SIR P. DUN'S HOSPITAL, DUBLIN.

"The works of the Lord are great, sought out of all them that have pleasure therein."

"Whoso is wise and will observe these things, even he shall understand the loving kindness of the Lord."

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INTRODUCTION.

THE view of disease presented in the following pages is believed to be altogether original. Most persons are in the habit of admitting, that the visitation of sickness, is the result of the direct appointment of God; but scarcely any one appears to think that such an admission implies the existence of features stamped upon the dispensation, similar to what are to be found in other parts of the Divine proceedings and that are eminently deserving of being studied carefully. The present work is intended to direct attention to the subject, and to unfold, by an analysis of the phenomena of disease, the evidence of design, contrivance, and beneficence, that lie scattered in profusion over every page of this volume of natural history. In executing his task, the author has not hesitated to avail himself of all the light that the progress of pathological science in recent times has placed at his command, while he has endeavoured to guard against introducing into his argument every thing that persons of the most fastidious taste can properly object to. He has also avoided, as far as possible, the use of technical terms, so as to render the work easily intelligible to every class of ordinary readers.

In saying that the views here unfolded are original, it is not intended to be asserted that intelligent physicians, who are accustomed to observe the workings of the great first cause, in what is constantly passing before their eyes, may not have noticed many of the facts which are here presented to the reader. Isolated glimpses of the truth inculcated in these pages have undoubtedly been often obtained, but disease *as a whole*, has never yet, so far as the author is aware, been considered in this light.

Every attempt to investigate and explain the operations of God, when conducted in a right spirit, must be attended with advantage. Familiarity with his works and ways has a necessary tendency to expand and elevate the mind. The more thoroughly we become acquainted with his proceedings, the deeper will be our impression of His unchanging faithfulness, goodness, and truth. It is hoped that the present effort to explore a new region of the Divine proceedings, will be favourably received by every one who is capable of deriving enjoyment from such exalted subjects of contemplation.

Nor is it merely in extending our knowledge of the works of God that the present publication is likely to be useful. It is believed that it may besides have a beneficial effect in correcting certain erroneous opinions that prevail generally, and that exercise an injurious influence on the public

mind. These errors are principally two—the idea, that the visitation of sickness is a casual occurrence; and the idea, that it is a punishment specially inflicted for some previous misconduct. Whoever entertains the first of these opinions labours under a mistake, which necessarily prevents his deriving the slightest benefit from the affliction. Whoever, on the contrary, adopts the second—and this is the case frequently with persons who have been more than usually afflicted—falls into an error of an equally dangerous description: he not only loses the benefit that the visitation is calculated to produce, but also runs the risk of forming a wrong view of the character of God. Whenever a man is led to look upon an attack of illness as the result of a special providence directed against himself, in consequence of some offence he may have committed, his first step naturally is, to examine the records of memory, to see and discover the precise act for which the trial is sent. Should he fail in this, as happens not unfrequently, or should he select some circumstance in his past life which he supposes *may* be the cause of his misfortune, but which appears to his partial judgment to be altogether disproportioned to the severity of the sentence, his mind becomes unhinged, he impeaches the justice of the divine dispensations, and murmurs at a trial, the precise nature of which he does not understand. Such a state of

mind is evidently unsuited to the position of a dependent creature. It places God at the bar of human reason, to take His trial for the propriety of His conduct. And it makes the limited and imperfect notions of man to be the judge of the designs and doings of the infinite and eternal God. It is to be feared that many real Christians, enlightened upon other subjects, labour under this mistake, and so fail of deriving comfort and improvement from the trials they are called upon to endure. A correct view of the nature of these dispensations would have a very different effect. The man who regards God as a father and not as a judge, and who looks upon his dealings as designed merely to chasten his creatures, will neither anxiously search for the particular sin that occasioned the infliction, nor question the wisdom that appointed it. The full conviction that God has a wise and gracious purpose in all His appointments concerning us, will hush every murmur into silence, and will quicken the graces of faith and patience into increased activity.

If this little work should be in any way instrumental in correcting the least error upon this important subject, and in diffusing sounder views of the work and character of God, the author will feel himself abundantly rewarded for all the time and trouble bestowed upon its preparation, while the glory shall be given to Him who alone is the author and giver of every good and perfect gift.

GOD IN DISEASE.

CHAPTER I.

OF DISEASE AS DEPENDING UPON AN ACTIVE INTELLIGENT CAUSE.

THERE are three opinions entertained in the present day relative to the existence of disease in the world. The first, which is probably the most common, is, that it is a necessary condition of our present state of being, and that the circumstances which regulate its development in any particular instance, as well as the form it happens to assume, are altogether casual in their nature, and therefore undeserving of any serious consideration.

The persons who entertain this opinion appear to have adopted it without ever having taken the trouble to examine the foundation upon which it rests, so as to have satisfied themselves of the accuracy of the conclusion at which they have arrived. It can scarcely be a matter of surprise if, under such circumstances, the opinion itself

should turn out upon investigation to be entirely erroneous.

The second opinion, though common enough at one period in the history of the world, is now almost completely exploded ; at least its advocates in the present day, if any exist, are extremely few. It is that which refers the visitation of sickness to the direct agency of the evil spirit. Many circumstances may be mentioned as helping to explain the change that has taken place in the public mind upon this point. In the first place, the general subject of Satanic influence, and of his immediate interference in the affairs of men, seems to be entirely discredited. It is not denied, in consequence of the statement of the Scriptures, that such an interference actually occurred in former ages ; but then it is contended that there were certain peculiarities in those times which do not now exist. Revelations from heaven were directly communicated to men, miracles were performed, and the manifestations of demoniac possession, whatever may have been its nature, were altogether different from any thing that occurs in the present day. The cessation of such phenomena justifies, it is believed, the idea, that there has been a total change in the government of the world in modern times, and that the power of wickedness has been controlled to an extent that was not formerly the case. Whether this conclusion be really

correct or not is a question, into the accuracy of which it is not necessary just now to enter. It is sufficient to remark that it appears to be generally entertained, and to involve, as a necessary consequence, the disbelief of Satanic influence being the cause of disease. In the second place, the enthusiastic ardour with which experimental science has been prosecuted of late in all branches of natural philosophy—a fact that is at once the peculiar feature and the highest glory of the age—has had a necessary tendency to lead men to explain all the phenomena that come under their observation by the operation of natural causes, to the entire exclusion of those which are supernatural. And in the third place, the adoption of the hypothesis in question would involve the idea of a vast multitude of subordinate spiritual agents in active operation in the world, which the generality of men are not willing to admit without better evidence in its support than a mere assumption. For it is manifestly inconsistent with the notion of a single spirit, however rapid his movements may be, and however powerful his personal resources, to imagine that he can be at one and the same moment the immediate cause of such a variety of ailments as we know the human race is affected by, in such a multitude of places, unless he were possessed of the attribute of ubiquity, which we know is not the case.

It cannot, however, be denied that the opinion, if held only by a few persons, has yet some show of plausibility for its support. The very nature of sickness, which is universally admitted to be an evil, and the suffering it induces, unless the result of a blind chance operating in the dark, and for no intelligible end, have something in themselves extremely characteristic of what might be supposed *a priori* to be the work of a malignant being. If an intelligent cause be admitted, it appears at first view inconsistent with the character of a being of infinite benevolence, such as God is, to suppose that he can be the author of so much suffering to His creatures. Besides, if we consult the sacred records on the subject, we shall find abundant evidence to prove that in several instances they speak of disease as having been actually produced in this way. Thus, not to speak of cases where it is said the individuals were possessed by demons, and which may be supposed to have had something miraculous in their nature, and so to bear no proper analogy to ordinary disease, we are told in Luke xiii. 16, of a daughter of Abraham who was bound by a spirit of infirmity, and whose illness was directly caused by Satan himself; and every reader of the Scriptures must be familiar with the case of Job, who was smitten in this way by an attack of sore boils. But even if it be admitted on the authority of

these and other passages that disease is sometimes occasioned by the immediate intervention of the great enemy of mankind, it is important to observe that he is, even at such times, whilst gratifying his own malignant passions, subject to the control, and restrained by the power of the Great Supreme. From the case of Job, we are warranted in concluding that he can neither put forth his finger to touch a single individual, nor carry his malicious designs one step further than the divine persuasion is pleased to allow. Viewed in this light, the intervention of Satan, if it really exist, cannot properly be regarded as the cause of the occurrence of the disease, seeing that he is only an inferior instrument in carrying out the designs of Him who doeth according to His will in the armies of heaven, and among the inhabitants of the earth.

This brings us, then, to the third opinion entertained upon this subject, and that is, that disease is really the result of the divine appointment in every instance where it occurs. This is distinctly stated in many passages of the sacred Scriptures. Thus it is said in 1 Chron. xxi. 14, the Lord sent pestilence upon Israel, and there fell of Israel 70,000 men. In 2 Chron. xii. 15, we are told the Lord struck the child that Uriah's wife bare unto David, and it was very sick. In 2 Kings, xv. 5, the Lord smote King Azariah, so that he

was a leper unto the day of his death. In other passages a similar sentiment is conveyed, when it is stated that angels were sent for the express purpose of effecting the infliction. This opinion, it is scarcely necessary to mention, is maintained principally by persons who admit the truth of revelation, and are in the habit of receiving implicitly every statement contained in the sacred pages.

These three opinions, so different in themselves, naturally exercise a very different influence on the minds of those who embrace them. Men who hold the first view are not disposed to pay any particular attention to the visitation when it attacks them. A purely accidental circumstance can address itself neither to the understanding nor the affections. It can suggest no necessity for self-examination, no motive for caution, no stimulus to exertion. Assuming that there is the slightest benefit in sickness, it is obvious that the individual influenced by this view is incapable of profiting by it. So far as he is concerned, he is in the same condition after the attack as he was before. How are the advocates of the second opinion affected by it? Looking upon it as the infliction of a powerful and malignant being, they can only feel anger, hatred, and resentment; they may be terrified by a sense of their being under the control of one whom they can neither see nor escape from, but

it is impossible they can be humbled or improved by it. But when a man has been led by reading or reflection to embrace the third of these opinions, the result is altogether different. Though he may be overcome by the conviction of the power of the Being in whose hands he is, and though he may be smarting under the bitterness of the suffering he endures, yet the knowledge of the character of God, of his wisdom, goodness, and truth, is calculated to keep him from murmuring under the dispensation, and to lead him to patience and submission.

If this view of the subject be correct, it is evidently a matter of some importance that the opinion which is entertained in reference to it be correct: both that proper feelings may be produced in the mind at the period of passing through the trial, and that the lasting benefit that sickness is intended to effect may be really accomplished. For it will readily be admitted to be a double misfortune for a man to suffer all the inconveniences of sickness, and at the same time to lose, by his own carelessness or stupidity, the improvement it was designed to produce.

It is proposed in the following pages to make a careful examination of the phenomena of disease, for the purpose of ascertaining how far it is of itself capable of solving the difficulty here suggested, and what amount of evidence, when fairly

questioned, it is ready to bear as to the author of its arrangements. It is not unreasonable to suppose that, whatever be the source from which sickness proceeds, an examination conducted in this way will enable us to arrive at a clear and satisfactory conclusion; for there must, of necessity, be imprinted upon the phenomena that attend it infallible proofs of the origin from which it has proceeded. If disease be the result of pure accident, it will be characterized by the total absence of all method, contrivance, and design; for it is irrational to believe that any thing can follow from the blind operation of chance but irregularity and confusion. If, on the contrary, it be the work of an intelligent agent, it will exhibit those qualities in a degree of perfection proportioned to the intelligence possessed by Him who is the author of it.

Such an examination, we have no hesitation in asserting, notwithstanding the apparent improbability of the opinion, will not fail to show that the visitation of sickness is really due to the direct appointment of God himself, and that not only is the ultimate design of the appointment full of benefit to the human race, but the various provisions that attend its progress are characterized by the kindest and most considerate regard to the circumstances in which they are placed.

Perhaps it may be thought that such an inves-

tigation as this is, is wholly unnecessary, inasmuch as it is quite possible for us to obtain all the information we require from a careful study of the sacred Scriptures alone, without a critical examination of what must be admitted to be a difficult subject to the generality of readers.

In reply to such an objection, should it be started, it is sufficient to observe that, without at all undervaluing the authority and importance of testimony coming from such a source, the highest and most emphatic to which we can possibly refer in any controversy, it yet appears desirable, for many reasons, to pursue the subject in the manner here proposed.

In the first place, there are many persons who are not in the habit of studying the records of inspiration with that care which is necessary to enable them to arrive at a correct conclusion upon the point, whose minds nevertheless require to be enlightened on the subject. Secondly; even admitting that the same conclusion can be equally well established by proofs drawn from distinct statements in the holy Scriptures, still it must be obvious that a new and independent mode of argument must tend materially to strengthen not only our conviction in the truth of the conclusion, but still more in the authenticity of that revelation that is thus proved to coincide with the well-observed facts of experience. And, lastly, the

circumstance that this study, interesting as it will be found to be, has not yet received that degree of attention which it is legitimately entitled to, is a sufficient reason for prosecuting the inquiry, even if other motives were wanted to induce us to enter upon it.

Nor should the professional character of the details, to which it will be necessary to direct attention, be any reason to prevent general readers from giving it consideration. No fact will be stated, in the course of the argument, which persons of ordinary information in the present day may not fairly be presumed to be acquainted with; and such explanations will be given, as we proceed, as will render the various points easily intelligible; so that no difficulty in understanding the argument need be anticipated by any one; while sufficient care has been taken to exclude every thing from the body of the work, that persons of the most fastidious taste can object to.

It is hardly necessary to remark, that the argument employed in the present work—namely, that the discovery of a contrivance necessarily establishes the fact of the existence of an intelligent author to account for that contrivance—is the very same that has been used by previous writers to support the whole structure of natural theology, though the sources from which the argument itself is drawn happen to be different. No

philosopher that has yet treated of that subject has drawn his statements from the field of sickness, simply for this reason—that the previous studies in which such persons happened to be engaged had not rendered them sufficiently familiar with the practical details of the subject to enable them to use the facts it exhibits in the prosecution of their enterprise. Hence the proofs of design in the history of disease, though numerous and striking enough when they come to be examined, have escaped the attention of those who might be supposed the most likely persons to have noticed them.

Perhaps, too, another circumstance may be mentioned as helping to explain, in some measure, what some may be apt to consider an unaccountable oversight on the part of those writers, and that is—that men do not usually go to look for a thing, unless in a place where they have a reasonable expectation of finding it. They may stumble upon it accidentally; but they do not go out deliberately to search for it, unless they have first had some reason to think that they will find it there. Now, in searching through the various departments of nature for proofs of design, it never occurred to men to look for it in disease, because they did not think that such a thing existed in it. The structure of the globe, the mechanism of the heavens, the anatomy of the body,

they regarded as the unmutilated work of the Great Architect of nature, and, therefore, they expected to find impressed upon them, in deep and lasting characters, the memorials of His handiwork. But disease they looked upon as the result of Adam's transgression—a casualty unexpectedly introduced into the economy of the world, that defaced the beauty of the original proportions, and brought confusion and disorder into all the divine arrangements. Was it to be supposed that a catastrophe of this kind would exhibit any evidence of plan or purpose worthy of a moment's consideration? When a horde of barbarians destroy a beautiful temple, do we expect to find any trace of care, of method, or arrangement, in the way in which they have effected their object? Are the marble pillars placed in some secure spot by themselves beyond the reach of injury? Is the ornamental cornice carefully packed up? Are the massive stones, of which the building was constructed, laid by in such a way that they can be easily erected again without trouble and without loss? No; universal experience tells us that such is not the way in which a ruthless enemy carries on the work of destruction. All the object he contemplates is, to effect his purpose as completely as possible, and in as short a time as he can. His desire is effectually to prevent the work being subsequently repaired or re-

stored; and hence he labours to mutilate as well as disarrange.

Now let us for a moment suppose that in exploring some remote and uninhabited quarter of the globe, we were unexpectedly to come upon the remains of some gorgeous temple, which displayed the marks of great beauty in its original formation, but which had been levelled with the ground shortly after its completion, not by the action of the elements on its mouldering materials, nor by the ruthless hand of violence, but by a person of equal skill with its original architect, as evidenced by the care and attention bestowed in the position of the prostrate portions —would not the attentive observer be irresistibly led to the conclusion, that some circumstance having occurred to render the continuance of the edifice in the locality originally selected inexpedient, the owner of the building, or perhaps the architect himself, enamoured of his work, and unwilling that it should be destroyed, had superintended the process of taking it down, with the intention of rearing it again in a new and more permanent position.

This is precisely the case in disease. Throughout every department of the various forms of physical suffering, there are to be found scattered in profusion the proofs of care, of tenderness, and of design. There is destruction, it is true,

but it is destruction carried on systematically by a friendly hand, not by a reckless adversary. Every thing connected with it tends to prove the truth of the inspired record, that it was not an unanticipated evil introduced into the world by the fall of Adam, but an event which had been foreseen from the first, and for whose occurrence provision had been made; so that what would, of itself, have proved only an unmitigated evil, has been overruled in such a way, that the curse has been converted into a blessing.

If, then, the instances of divine wisdom and goodness which exist in disease have not hitherto attracted attention, it is not because they are few in number, or too deep to be easily discovered, but simply because they have not happened to be sought for. The whole fabric of natural theology can be as easily reared upon this department of nature as upon any other; and, in some respects it will be found that the facts it unfolds have peculiar advantages for the purpose. It may, perhaps, not be altogether out of place to glance briefly at the subject in this aspect, before proceeding further.

The leading attributes of the Divine Being, presented to our notice in natural theology, are His power, wisdom, and goodness. It is easy to show that these can all be traced, with equal clearness, in disease; and first, as to His

power. This is evidenced in the various changes of vital action that are continually induced for the purpose of bringing about recovery. What is there in the whole material universe that more strikingly conveys to our conceptions the idea of power than the simplest exercise of vital action? The force of gravity, as it is exerted in the amazing regions of space, may overwhelm our imagination by the magnitude of the masses submitted to its control, as well as by the vastness of the distances at which it acts; and the electric fluid, that sublime but mysterious agent, may produce a similar effect by the inconceivable rapidity of its motion, and by the resistless energy with which it accomplishes its terrific results; but the healing of an ulcer, and the crisis of a fever, when carefully considered, will be found to contain as real and as incomprehensible, though certainly not as striking, an exhibition of the principle of power as either of the forces we have named. The reason is obvious. The manifestation of the latter depends upon the existence of life, every thing connected with which is mysteriously incomprehensible. So long as vitality continues in any body, so long is that body capable of resisting, more or less effectually, the ordinary laws of chemical action, and even of physical influences. So soon as that principle is destroyed, these laws, previously held in abeyance, assume their supre-

macy, and produce their customary effects. The decomposition of dead animal or vegetable matter is but the result of the assertion of those powers which were previously restrained by the energy of the living principle. This principle man is incapable of calling into being. He can no more confer life upon brute matter, than he can create a new molecule, or confer upon what already exists a new property that it did not previously possess. In this, then, we see strikingly displayed the weakness of man and the power of God. Nor is this the only inference we are warranted to draw as to the character of God, from the instances to which allusion has been made. If the healing of an ulcer is a proof of His power, from the fact that it depends upon a new direction being given to the vital forces, it is equally a proof of His wisdom and His goodness; because the fact itself establishes the purpose, for which that power has been exerted, to be one of pure benevolence, guided and directed by appropriate skill. There can be no mistake here. If the fact of the occurrence of the change in the living energy of the animal frame, at such a time, be established—and its reality is proved by the unanimous testimony of all medical men—it necessarily leads to the conclusion, that the Being who appoints that change, and superintends and controls its occurrence, must be possessed, not only of goodness to suggest such

a course, but of wisdom to plan and arrange its proceedings, and of power to effect its accomplishment. But, not to insist too strongly upon this argument, we may observe, generally, that wherever contrivance is found to exist—distinct elaborate contrivance, by which we are to understand the arrangement of several provisions to the accomplishment of a single purpose—we are justified in concluding that the author of that contrivance must be possessed of intelligence, especially if the purpose for which the contrivance was framed be a desirable one, and the details of its provisions be characterized by suitableness, simplicity, and effectiveness. This is emphatically the case in disease, as will be clearly established in the subsequent chapters of this work. It would be out of place to attempt, at present, to adduce any evidence in support of the position, which will be abundantly evident as we proceed.

Still further we are justified in concluding that the attribute of goodness characterizes every intelligent being, in whose works we are able to discover the evidences of considerate care to provide for the anticipated necessities of others, and to guard against contingent evils, to which they may happen to be exposed. When, in fact, the comfort and happiness of creatures capable of enjoyment have been made the objects of his direct and judicious attention. This can be easily shown

as regards many of the arrangements of sickness. A reference to the eighth chapter will satisfy every candid mind of the existence of benevolent fore-thought on the part of the Author of the dispensation, in appointing certain processes to be set up in particular cases, to check the progress of destruction, and to guard against accidental consequences of the greatest danger. Can any thing more strikingly prove the goodness of the agent, who directs and superintends the arrangement of the appointment, than this? He permits just so much to happen of an unpleasant nature as He sees to be absolutely necessary for the accomplishment of His own wise purposes; but He takes especial care to prevent the painful process going one step further, or being carried one degree deeper, than that necessity absolutely requires.

And not only are those attributes, of which we have spoken, clearly manifested in the arrangements of sickness, but what may be considered the higher and more glorious perfections of the divine character can be traced with equal ease. Such, for instance, as the faithfulness, justice, holiness, and mercy of God. The divine faithfulness is proved, in natural theology, by the uniformity with which the physical phenomena of the material universe take place. The motions of the planets in their courses, the phases of the moon's disc, the regularity of the seasons, all

establish this truth in a striking manner. A proof, similar in its kind, and equally convincing, is afforded by disease. Morbid phenomena pursue their course with equal regularity. They have their periods of invasion, of maturation, and decline. Their progress is capable of being ascertained, and made the subject of calculation; and not only so, but the action of remedies upon the human frame exhibits a similar uniformity. All our systems of medicine, whether correct or erroneous, are evidently founded upon this hypothesis. Were these principles not admitted, there could be no such thing in practice as a rational plan of treatment. If the course of pneumonia were different to-day from what it was yesterday, and what it may be to-morrow; if rhubarb were to produce a different effect on the living organism at each time of its administration, the whole science of medicine would be reduced to a sea of endless uncertainties. It would, in that case, be impossible to anticipate what would probably occur in any particular instance, or what would be the effect that any remedy we might resort to would be likely to produce. The experience of previous cases would be no guide for future practice. Happily for mankind, things have been differently ordered. Owing to the regularity with which morbid processes occur, we are enabled to study disease with advantage, and to calculate with a warrantable amount of

confidence, the probable effects of particular medicines in ascertained circumstances. It is true that we do not observe an absolute and mathematical accuracy in the course with which expected effects follow from particular remedies. Deviations undoubtedly occur from time to time, of a most embarrassing and unexpected nature. But the same thing happens also in the material world. No two successive seasons are exactly alike, and the movements of the planets are marked by occasional irregularity; but the causes of these deviations are capable of being ascertained and accounted for, as has been recently exemplified in the discovery of the new planet, Neptune. And so in disease, the causes of these abnormal results are to be sought for in a deeper study of the modifying influences that control the natural and ordinary action of the remedies in question.

Justice is an attribute which has reference to a law of some kind or other, and which implies the existence of a relation between moral agents of different classes. One is the lawgiver; the other is the person subject to that law. Justice requires that the lawgiver shall, in all cases, act in conformity with the requirements of the law, vindicate its authority, and punish the offender. Man—not to speak of any higher kind of law—is placed naturally under the law of personal exertion; the justice of God requires that this law should be up-

held, and that every violation of its requirements should be punished with an appropriate penalty. This law clearly exists, and every one must be aware that its sanctions are enforced in the poverty that oppresses some, and the misery that attends others, who transgress its enactments. But the justice of God, as thus established, is not more clear or more convincing than it is when the proof is drawn from the history of disease. In reference to health, man is equally placed under a law. We have the laws of temperance, of cleanliness, of exercise, any one of which, when violated, brings down upon the offender, as a necessary consequence, a more or less distinct punishment for his misconduct. In some respects, the impression of this truth—that the Divine Being is invested with the attribute of justice, and that He will not allow any of His laws to be violated with impunity—is more striking when conveyed to the mind by disease, than when it is inferred by a consideration of ordinary providence. For the artificial state of society that prevails in all civilized communities, obscures, to a very great degree, in the public mind, the sense of personal exertion, which is the lot of all men; and it is needless to observe, that wherever this condition is not recognised, it is impossible for the punishment, which is the necessary consequence of the violation of the law, to be clearly appreciated.

Then, again, as to the holiness of God.

Some persons may imagine that this attribute is identical with justice; but it is really different. Holiness has reference to the abstract principles of right and wrong, whether embodied in legal enactments or not. Justice always refers to a law; but the law itself may not be a righteous one: it may be very much the reverse. When ever this is the case strict justice would require the lawgiver to pronounce sentence in opposition to the clear requirements of abstract holiness. The holiness of God is proved by the existence of natural conscience in every man, which leads him to discriminate between right and wrong, and which punishes him by the sting of remorse whenever he disobeys its suggestions. Nor is the testimony of disease wanting to prove the existence of this attribute in the divine character. Many of the maladies with which men are afflicted are the direct and admitted result of their own previous misconduct—misconduct, which the internal monitor clearly and emphatically condemns. Does not this fact show that He, who is the author of the link that binds the consequence to its cause, is a God of holiness, and that He disapproves of the course of action that necessarily leads to such a result?

We come now to speak of the attribute of mercy; and, in doing so, we cannot fail to be struck with the superior advantages possessed by disease for

unfolding it over every other department of nature to which our attention may be directed. Many persons are impressed with the idea that goodness and mercy are identical, and that any thing which proves the existence of one of these attributes necessarily establishes the other. But, though closely connected, there is a wide and obvious distinction between them. Goodness is indiscriminating in its operations: it delights to scatter the blessings it possesses indifferently upon all around. The objects upon whom it lavishes its bounty may or may not be in a condition to require the benefits it bestows; they may be rich, comfortable, and happy, just as readily as poor, miserable, and in want. Mercy, on the other hand, is goodness *specially* directed for the relief of the necessitous. It selects the objects of its compassion on the express grounds of their requiring its assistance, and it suits the relief it ministers to the exact circumstances of the sufferers. It is this discriminating and adapting tendency that constitutes the entire difference between goodness and mercy. Let us illustrate the statement by an example. The unfallen angels that encircle the throne of the Eternal continually experience the full measure of the divine goodness; but they are incapable of being in any sense the objects of the divine mercy. The inconceivable blessed-

ness of their condition is no impediment to their enjoyment of the one; but it is a perpetual bar to their reception of the other. With man, on the contrary, the case is different: he may be, and he is, at one and the same moment, the unworthy object of both. The wretchedness of condition that he inherits from his first father, while it emphatically renders him a suitable subject for the one, in no degree renders him unfitted for the blessings of the other. It is only in the reflected experience of the human race that angels can discover the slightest trace of the existence of that attribute, which is the culminating point of the divine perfections.

It may be questioned whether there is any thing in the ordinary course of nature that suitably illustrates and establishes this marvelous feature in the character of God. Distinctions are not drawn between one man and another by mere physical phenomena. The fields of the rich, equally with those of the poor, are watered by the fertilizing shower, or parched up by the scorching drought. The fury of the tempest strikes an indiscriminating blow on all within the reach of its violence. We discover in these arrangements no special exemption for any class or person, no peculiar provision for any of the children of sorrow. But when we come to examine the details of sickness, the case is totally

different. There we discover special provisions for allaying pain, for restoring health, and for rendering ailments, which are necessarily incurable, to a certain degree more compatible with the comfort and activity of the invalid. Is not this mercy properly so called? Is it not goodness specially directed to the sufferer? Is it not discriminating in its compassion, and does it not adapt the peculiar benefits it dispenses to the exact necessities of the object it designs to relieve? The provisions of which we speak do not exist except where their assistance is required; but no sooner do the circumstances occur which render them desirable, than we find them developed; proving beyond all question the reality of the existence of this attribute, and of its active exercise.

Who that considers these things can for a moment hesitate to admit that the author of sickness is really the same great being, who is revealed in the pages of inspiration? His essential attributes are the same, and His dealings with His creatures the same. If a person familiar with the works of art can pronounce without risk of error, from the mere consideration of an artist's style, the name of the person whose work he has examined, surely we are warranted in drawing a similar conclusion from an equally plain and striking analogy in the case before us.

CHAPTER II.

OF THE NATURE OF THE DESIGN THAT DISEASE IS
INTENDED TO ACCOMPLISH.

It will scarcely be denied by any one who admits the existence of one supreme God, that the world, as it exists, is His work, and that nothing can happen in the arrangements of nature without his knowledge and permission. How far He is pleased to interfere in the direct management of human affairs may, perhaps, be questioned by some; but every one will admit that He is acquainted with every thing that occurs, and that He could prevent any thing from happening were He disposed to do so. This being the case, it may fairly be inferred that the very fact of disease existing is a sufficient proof that there are wise and satisfactory reasons for permitting its continuance. It would be a direct charge of imperfection against God, to suppose that He would allow things to happen by mere chance, or that He would remain an indifferent spectator of any thing that seriously affected the comfort and well-being of his dependent creatures. It is just as necessary, for the perfection of the divine character, that there should be wise and sufficient

reasons for every thing He permits, as it is that there should be wise and sufficient reasons for every thing He does. This consideration, even though we might not be able to discover on the closest investigation any of those reasons that influence the divine mind, ought to be sufficient to satisfy us that such reasons exist, and that some good and benevolent purpose is really answered by the appointment. But it is well for us to know that we are not left wholly in the dark upon this important subject. A little examination is all that is necessary to enable us to discover some of the important purposes that disease is intended to serve in relation to man, though it is exceedingly probable that we may not be able to discover them all. If we are correct in the assumption that God is really the author of disease, it is not asserting too much to say that His design in the appointment is not single, but manifold. We know that in other instances He delights to make the same instrumentality accomplish many useful ends; and it is reasonable to suppose, on the principle of analogy, that the same thing holds true in the case before us. And if we shall be able to trace more than one useful end fulfilled by the visitation of sickness, we shall have our conviction strengthened in the accuracy of the opinion that it is due to God himself, while we shall have reason to admire

the wisdom that is thus manifested in making it subservient to several ends at one and the same time.

We have already hinted at one useful purpose that it may be applied to, and which it was, doubtless, designed to accomplish, and that is, its giving us an insight into the divine character, and its unfolding to the intelligent eye some of His attributes, and their perfections. This, though an important benefit in itself, scarcely seems to be the main reason for the appointment. The same may be said of two other ends which have yet to be discussed; namely, its use in illustrating spiritual truths, and in exemplifying the manner of God's dealing with His intelligent creatures. But the case is different when we consider that every attack of illness is a standing memorial of our mortal condition, and a warning to prepare for the great change that awaits us. Every man must be satisfied in his own mind that, in conformity with the general law of nature, he must sooner or later leave the present sphere of existence. Every man who believes in the immortality of the soul must be convinced that the great business of life, when properly understood, is to prepare for the future state of being that awaits him. Every one who reflects upon the paramount importance of that future state, must feel that in comparison with it all present

things sink into the shade and lose their value. Here, then, we have an end infinitely worthy of the great Author of the appointment, and sufficient in itself to account for all the difficulties that appear to encompass it. Trying as the visitation may be, yet if it serves to fasten attention upon truths of eternal interest, and to wean the affections from present and perishable things, it accomplishes an object more than enough to counterbalance all the inconveniences that attend the process.

Before proceeding to consider the suitableness of the appointment for the accomplishment of this object, it appears to be necessary to say a word or two in reference to another object which is supposed by many persons to be one reason at least for which the visitation of disease is permitted to take place, and that is, that it is a punishment inflicted on the individual for some sin of which he has been guilty. This opinion has been held in all ages of the world. We find traces of its existence in the writings of the ancient Heathens; and the question that the disciples put to the Saviour when they asked, "Lord, who did sin, this man or his parents, that he was born blind?" proves that it was commonly entertained by the Jews. Nor is it altogether destitute of foundation. In the first place, many of the ailments we suffer from, as has already

been remarked, are undoubtedly occasioned by our own misconduct. Secondly, we have the highest authority for saying that disease was unknown in the world before the fall of Adam. And, thirdly, the sacred Scriptures inform us of several instances where disease and pestilence were plainly inflicted upon men in consequence of some offence which they had committed. Thus, the Philistines were smitten with emerods because of their treatment of the ark (1 Sam. v. 6.); the Israelites died of a plague, when David imprudently ordered a census to be taken (2 Sam. xxiv. 15); Azariah was struck with leprosy for profanity (2 Kings xv. 5), and Gehazi for covetousness and falsehood (2 Kings v. 27).

Before considering these arguments in detail, it is necessary to make a few remarks on the nature of punishment. In ordinary language, this word and correction are confounded together. Yet the ideas they represent are perfectly distinct. Punishment has reference to the past conduct of the criminal—correction to his future improvement. Punishment is a kind of revenge for offences already committed—correction, a kind of discipline to guard against their commission in future. Punishment is directed against the individual who commits the act—correction, against the act committed. Punishment includes the idea of displeasure on the part of the person who

inflicts it—correction, on the contrary, that of the most tender solicitude for the welfare of him who is corrected. The design of punishment is solely to benefit society, that others may be deterred from the violation of the laws; that of correction includes, in addition, the benefit of the individual, that he may become a better subject for the time to come. Keeping this distinction in mind, it may fairly be asserted that God never sends sickness as a *punishment*, but always as a *correction*.

Let us now return to a consideration of the arguments already adduced in support of the contrary opinion. The first is founded on those cases of sickness that result from the misconduct of the individual. But even this circumstance is not inconsistent with the idea, that the design of the infliction is salutary, and not penal. There can be no correction without some sort of reference to previous conduct. There must have been an offence committed; that offence must be marked out in a sufficiently express manner to intimate disapprobation. This can only be done by securing an obvious connexion between the two events—the evil and the consequence to which it leads. But the connexion, when it exists, does not by any means prove that the consequence partakes in any measure of the nature of punishment. Besides there are many cases—indeed we may say the great majority—of sickness in which we search

for such a connexion in vain. No previous misconduct can be detected to explain or justify the visitation. Many of the most amiable characters are the most afflicted of the race. Many, on the contrary, of the most abandoned, who have tried the strength of their constitution by a long course of dissipation, enjoy uninterrupted health. Often the ravages of disease set in in infancy before the individual has become an accountable agent, and before conscious intelligence has asserted its dominion. How is it possible to reconcile these occurrences with the idea of punishment?

The second argument rests upon the fact, that disease did not occur in the world until after the fall of Adam, and it infers from this circumstance that it must be viewed as the penal consequence of his transgression. This is supported by the consideration that in every place exempt from sin disease is absent. There was none in Paradise before the fall. We are assured there will be none hereafter among the redeemed inhabitants of heaven. Its occurrence upon earth is entirely to be ascribed to the deep depravity of the human race. All this is most certainly true; but the question to be determined is this: is it true in the higher sense of an abstract punishment, or in the subordinate sense of a mere correction? Now it is important to notice, that if

there were any *vis consequentiae* in the argument, as put forward, it would follow that wherever sin can be discovered, there, as a matter of course, disease would prevail. But this is not the case. In the dark dungeons of despair there will be abundance of evil, but we have no warrant from the sacred Scriptures for inferring that there will be any sickness. It is impossible for unrenewed spirits to exist without committing sin. Their prolonged existence will only be one continued act of rebellion against God, and of malignant hostility against each other. Now, if it be correct to regard sickness as a punishment, where would be the consistency of excluding it from that place which is emphatically devoted to punishment—where the unmitigated wrath of God, in all its intensity, is poured forth upon the miserable inhabitants? Would it not be a strange distinction to subject them to punishment of inconceivable severity, and to spare them others that are comparatively trifling? But if, on the contrary, it be intended for correction, we can perceive good and sufficient reasons for the difference. Within the walls of that prison-house there will be no improvement. It is written, “He that is then filthy shall be filthy still.” And if this be so, where would be the propriety of using the rod of correction when there shall be no hope of reformation? It is only in the present life that man

is in a state of probation—it is only in the present life that man is capable of undergoing discipline. Are we not warranted then in concluding, that what is so admirably fitted to effect this object, and which is to be found only in circumstances where this object can be effected, is really designed and intended for the accomplishment of the very purpose for which it is adapted ? Then, as to those cases mentioned in the Bible, where the infliction of disease was the immediate consequence of some offence, which is plainly specified, it is right to observe, that there is nothing in the history of those cases to lead us to infer that the judgment was sent as a punishment, and not as a correction. It is true that, as regards the Philistines, we have no reason for supposing that they derived any advantage from it: their wicked character would lead us to suppose them unfit objects of the divine mercy. But the question is not what the effects produced may have been, but what the purpose of the appointment actually was. In the case of Azariah and Gehazi it would be unwarrantable to imagine that the affliction had no good effect; indeed, from Azariah's previous character, we have the best grounds for hoping that the visitation was a merciful one, and productive of the very best results. Even if it were to be admitted that disease, when sent to the wicked, was intended as punishment, it will by no

means follow that it possesses this character when sent to the Christian; because many passages of the Bible can be adduced which oppose such an idea in the plainest terms. For example, the reply of our Lord to that question, which has been already quoted, is sufficient to set the matter at rest. He says, "Neither hath this man sinned nor his parents, but that the works of God should be made manifest in him."—John ix. 3. Again, speaking of the sickness of Lazarus, he says, "This sickness is not unto death, but for the glory of God."—John xi. 4. Abijah, the son of Jeroboam, when a young man, was attacked with a fatal illness, and yet we are assured that the affliction was sent to him because he was the only member of the family in whom there was some good thing towards the Lord God of Israel.—1 Kings xiv. 13. The whole history of Job proves that he was not afflicted, as his friends ignorantly supposed, for his guilty hypocrisy, but for the purpose of glorifying God by his patience, meekness, and integrity.

These instances are most important and instructive. They teach us that, in the case of the Lord's children, sickness is often sent under circumstances which do not warrant the idea, that the dispensation partakes even of the nature of chastisement, much less of punishment. It is not caused in any measure by their misconduct. It

is entirely the result of God's gracious purposes towards them. Having implanted in their souls the blessed fruits of the Holy Spirit, in all Christian graces and virtues, it is necessary, for his glory and for their benefit, that these should be exercised, strengthened, and increased. It is only the furnace of affliction, in some form or other, that can effectually develope these results; and we may rest assured that when He selects bodily suffering as the form of affliction best adapted for any particular individual, He has wise reasons for the appointment, though they may be undiscovered at the time.

But even to the ungodly, to the careless and impenitent, strange as the assertion may appear to some, these visitations partake of the nature of discipline, and not of punishment. The expressions contained in the sacred Scriptures—"Ephraim is joined to his idols, let him alone." (Hos. iv. 17); and "Why should ye be stricken any more, ye will revolt more and more." (Isa. i. 5)—plainly prove that the purpose for which the judgments had been sent was, to lead the people from their sinful courses, and not to punish them for having originally entered on them. The argument of the prophets in each case would be inconsistent under any other hypothesis. The punishment of the sinner is reserved for a future state, when, without doubt, a just and

holy God will not suffer him to escape; but in the present life he is experiencing only long-suffering forbearance at his hands, and in so far as he neglects or despises it he is adding to his condemnation. Nor is it any answer to this view to say, that the Bible represents God as being "angry with the wicked every day."—Ps. vii. 2. Undoubtedly He is so; but the way in which He is pleased to exhibit His displeasure is, not in sending sickness upon sickness, and affliction after affliction, but in a manner the very reverse—in permitting them to enjoy health and prosperity. Infatuated by these He leaves them to their own devices; and their destruction is the consequence. The seventy-third Psalm clearly proves this. The Psalmist's mind had been sorely tried by the number and variety of his afflictions, compared to those of the wicked men he saw around him. He was at first disposed to regard these personal trials as evidences of the Lord's displeasure, and under this impression fell into a state of despondency. As soon, however, as he was enabled to take a correct view of the whole subject, he clearly saw the danger in which the wicked were placed by those very blessings, on account of which he was at first disposed to envy them.

Our attention has hitherto been confined to the statements of the sacred Scriptures bearing on this subject, because they are both the most un-

erring and the most authoritative standard to which we can appeal for information. But a careful consideration of the facts contained in the subsequent pages will necessarily lead to a similar conclusion. If it be true that merciful provisions exist in disease, to mitigate its severity and to diminish its destructiveness, we have, in this fact alone, ample testimony as to the purpose in the divine economy it is designed to serve. In every kind of punishment, properly so called, we see inexorable justice rigidly exacting the full amount of the prescribed penalty, without the slightest regard to the sufferings of the victim, or the consequences which it occasions. In the administration of discipline, on the contrary, we see justice tempered with mercy, listening to its suggestions, and yielding to its entreaties. While the majesty of the violated law is vindicated with becoming firmness, the utmost tenderness is exhibited to the unhappy culprit, and no unnecessary severity is resorted to, but such as is absolutely essential for the object it has in view, namely, the reformation of his character. All the improvements which have taken place of late years in the prison discipline of these countries—for which we are indebted to the philanthropic labours of Howard, Fry, Buxton, and others—proceed upon the assumption, that the principal purpose for which such places are maintained is the correction of offenders; and, so far

as they keep this object in view, they approach in character to the benignant administration of the divine government. Nor is it any objection to the sentiment here advocated to say, that if the gracious Author of nature formed such a design in the appointment of sickness, that His intentions are more frequently frustrated than carried into effect—that men are seldom benefited by such attacks, though they are often hardened. It is one thing to say that a machine is adapted for a particular purpose, it is quite a different thing to take and apply it to that purpose. The mechanism of a watch may be admirably suited for keeping time, but if it be not wound up and set a-going, it will no more keep time than any shapeless mass of matter of the same size we may happen to lay our hands on. If it be set a-going and not properly regulated, every occasion we consult the dial it will lead us into error instead of giving us correct information as to the hour of the day. The mistakes to which we formerly alluded may be rendered intelligible by this illustration. The fault that sickness does not produce salutary impressions upon those who suffer from it, lies, not in its unsuitableness to this end, but in its non-application on the part of those who regard it as a casual occurrence, and in the perverted use of it on the part of those who consider it a punishment and an expression of God's anger because of their guilt.

We have dwelt upon this subject at some length, because it is a matter of great importance to have right views in reference to it, and because we are persuaded, from personal observation, that the error in question prevails to a much greater extent than is generally supposed. Nor is it confined to persons ill-informed on other religious subjects. It exists among many of whom there is good reason for believing that they are Christians indeed. So long as it continues there can be no real enjoyment in spiritual things, and very little benefit from affliction. The mind, instead of being drawn to the Lord in meek submission to His will, is occupied about itself in endeavouring to discover the secret cause of the trial, and whether it succeed or fail, the result is equally unhappy. Disputing with God about the justness of His dealings towards us, is not the way to derive advantage from His dispensations. The spirit must be humbled in order to be sanctified. It may not be easy to discover the reasons for the Lord's conduct towards His people in every instance ; but we may be assured of this, that there is not one drop of anger in the cup he gives them to drink, however bitter it may be to the taste ; and the conviction of His unchanging and eternal love, may well sustain and cheer them under all the circumstances of sorrow and of trial they may be called upon to experience.

CHAPTER III.

ON THE EVIDENCE OF DESIGN, THAT IS AFFORDED BY
THE EXISTENCE OF DISEASE IN GENERAL.

One of the strongest arguments adduced by writers upon natural theology, in support of their views, consists in the mutual adaptation of one part of creation to another, with which it is evidently associated. Such, for example, is the adaptation of the eye to the physical properties of light; of man's moral constitution to the circumstances in which he is placed; of the structure of the lungs to the qualities of the atmosphere, &c. This mutual adaptation is a clear proof that one at least of the two associated things, was originally constructed with a special reference to the other, and that it must have been formed by a Being fully acquainted with all the circumstances in which it was to be placed, and with all the requirements it would be called upon to meet. No higher proof of wisdom, power, and contrivance, can possibly be adduced.

The argument thus stated is capable of being applied, with undiminished force, to the subject immediately under consideration. We have, in the present condition and character of man, viewed, in

connexion with his future destiny, an obvious necessity for the intervention of some sufficient stimulus, to direct his thoughts to his best and most important interests. This necessity will be more fully illustrated as we proceed. We have, on the other hand, in the circumstances of the disease an arrangement admirably adapted to meet that necessity. Who can hesitate to believe that these must have been made for each other? Reject this idea, and the whole history of disease becomes an unaccountable anomaly—a reproach upon the moral government of God. Admit it, and all the difficulties connected with its occurrence immediately disappear. The good it produces more than counterbalances all the evil it occasions, and the object it accomplishes is every way worthy of its Author, and of the regard he must be supposed to entertain for his dependent creatures.

That some warning is necessary to remind man of his mortal condition, and of the obligation to prepare for a future state of existence, is obvious from universal observation. How few, as we look round upon the world, appear to be in the slightest degree impressed with their frail and perishing condition. How few appear seriously to think of an event that must soon certainly happen, and that is fraught with such momentous results to their own personal happiness.

Even of those who do occasionally suffer the

subject to occupy their attention, how small a proportion appear to make the necessary preparation for meeting it properly. Were a being of a different order in the intelligent creation, to contemplate the condition and conduct of the human race, would he not justly conclude that we were labouring under some unaccountable infatuation, thus to neglect our highest interests in the unceasing pursuit of some passing gratification? It is impossible to deny that this conduct is really the result of an infatuation occasioned by that terrible convulsion that unhinged our whole moral being at the fall of Adam, dislocated our affections from their proper connexion, and deranged the entire course of our intellectual operations. But there are, besides the natural hostility to the subject of religion, that the sacred Scriptures assures us exists in every unrenewed mind, two other circumstances which may serve in some measure to explain, though they do not justify, this neglect of eternal things. These are, the repulsiveness of death, as a subject of contemplation, on the one hand; and on the other, the tendency of present objects to engross the attention of the moment to the complete exclusion of every thing else. As to the first of these, many things combine to render death, with its associated topics, an unwelcome theme. The gloominess of the grave, with its dark and dismal silence; the narrow but inevitable

tenement that the proudest of the race has to occupy; the revolting process of decomposition, by which the materials of the body are resolved into their original elements; the intolerable pain of parting from the tenderest objects of affection, and the most valued possessions and pursuits; the impenetrable mystery that with midnight darkness shrouds the invisible future; the vague conception of the existence of separate spirits with their undiscovered relations to each other; the consciousness of guilt that dwells within every bosom, until it is taken away in the only mode that is revealed for the purpose, and that broods like some monster with expanded wings over every moment of our waking existence—these and similar reflections, rising up on every occasion when the subject is brought before us, fill the mind with an instinctive dread of its approach, and impel us, without waiting to give it time for consideration, to banish it as far as possible from our thoughts.

Then, as to the other cause that we have assigned as serving to account in some measure for this prevailing neglect of eternal things, we have to observe that it appears to be only an abuse of a perfectly legitimate principle, wisely implanted in our constitution for the best of purposes. The principle is this—that whatever subject happens to be actually present to the mind, possesses for

the time an absorbing interest over every thing else: in other words, that there is a tendency to attend to things in a ratio proportioned, not to their importance, but to their nearness. Many things may be extremely important in themselves, but, owing to particular circumstances, may not possess those paramount claims to immediate attention, that other things of intrinsically minor consequence may have. To neglect the latter, while attempting to perform the former, would be extremely improper. It is evident that to a being of limited capacity, and of uncertain life, such as man is, *present* duty, whatever that duty may be, is the great object to be attended to: and the only question requiring any serious consideration is, to determine at each moment of existence what that particular duty is that calls for immediate attention. The utility of such a principle is obvious. If man had nothing to guide him in the selection of the various duties he undertakes, his whole life would be a chaos of confusion. He would be in the constant danger of doing every thing at the wrong time: attempting at one moment something which he may never require, and neglecting another he may immediately afterwards be in want of. The greatest minds have been uniformly distinguished for the two elements contained in this principle—namely, methodical arrangement and abstraction of ideas. When they

take a matter up, they devote to it their undivided attention. Whereas, men of considerable ability, who have been deficient in these qualities, who indulge in a rambling and loose method of study, who meditate upon possible contingencies, and spend their time in preparing for a remote uncertainty, instead of directing all their energies to the present emergency, seldom succeed in attaining eminence in any thing. Necessary as this principle is for the performance of the ordinary affairs of life, it becomes still more so in reference to the concerns of the unseen world. But for this, it is not unreasonable to suppose, that our thoughts would be wholly engrossed with the latter subject, to the entire exclusion of every thing connected with the present life. We know that this effect has been actually produced in many instances. The various ascetics who have retired into seclusion, have done so under this impression: the paramount importance of the concerns of the soul, weighing down every other consideration in their minds, and leading them to spend their time in abstract contemplation, to the neglect of the active duties of society. It is scarcely necessary to remark, that such a course of conduct, however well it may work for a limited period, is not found, when prolonged for any considerable time, to answer the expectations that had been formed of it. In this, as in the opposite

extreme, there is a fault; the true interests of man requiring a proper balance to be struck between the antagonistic principles, so that neither the duties of the present hour nor the concerns of eternity shall be neglected in the adjustment.

In reference to the nature of those engagements that generally absorb the attention, mankind may be divided into two principal classes,—the men of business and the men of pleasure. The former, either from choice or from necessity, select an active and laborious occupation, which taxes their energies to the utmost, and involves them in the cares and anxieties of the world. The latter are usually possessed of independent fortunes, and are consequently raised above the necessity of physical or mental exertion. They give themselves up unreservedly to the gratification of their peculiar pleasures or tastes. Different as the life of these classes of men naturally is; different as is the effect upon society, the result, as regards themselves personally, is pretty much the same. Both are drawn into a vortex, which drowns reflection in the multitude of present engagements. It is not so much that the pressure of business or amusement is too great to prevent their actually having time to devote to serious subjects, as that they have really no taste for their consideration. It may fairly enough be questioned, whether any

man who enjoys personal liberty, no matter what his position may be, is so circumstanced that he cannot find leisure to prosecute any particular pursuit that really interests him. When this excuse is made, as it frequently is, it really means no more than this, that the matter is not of such a nature as to appear to the individual in question worth the sacrifice of time and convenience that it would require. The true way in which the engagements of business and the fascinations of pleasure operate to exclude serious thoughts from the mind, is by increasing the distaste that exists naturally to the subject. Constant occupation of the mind in any one way, creates a habit that is prejudicial to other pursuits. That very habit is productive of a certain amount of pleasure in the indulgence, and this is increased the longer it is continued.

Now, if this be really the case—if there be an innate indisposition on the part of man to prepare for death, and if the ordinary events of life are calculated to increase rather than to diminish that repugnance, is it not clear that any thing which can have the effect of rousing us from our lethargy, and of breaking the fatal spell under which we are bound, must be highly beneficial, even though it be productive of a little temporary suffering? And if disease, with all its drawbacks, have an evident tendency to accomplish this ob-

ject, ought it not to be hailed as an inestimable boon to the human race?

One of the modes in which it is calculated to be of use, is by rendering the tenure of life uncertain. Can any thing be better fitted to impress the mind with the necessity of timely preparation for the approach of death, than the conviction, that it is impossible to form any conception beforehand of how long we shall live, or how soon the fatal period may arrive? There can be no question that God could, if he had thought fit, have provided for the removal of men from the present state of existence without the intervention of sickness at all. In certain cases, even now, this actually takes place, and it only requires the extension of the same provision in one or other of its phases to accomplish the same result in all instances. We find some men killed by fatal accidents in the enjoyment of perfect health. We find others of good constitution living to a green old age in the full possession of their faculties, till the thread of life is so gently broken, that they appear to have never been a day ill. But both these forms of death are extremely rare. Death by disease is the law of nature. Death, despite of disease, is the rare exception. The question may be asked, what would be the effect upon society were the law altered or reversed? Would the change be a beneficial one? How would it

answer for men to be left to spin out a longer or a shorter period, according to the native vigour of their constitutions in the enjoyment of health, till the mainspring of activity had lost its power, and the curious mechanism within us had become worn out by use? Would it not rather encourage that neglect of eternal things, that is now so common? Would it not, in a measure, justify a deliberate postponement of the great concern, till the lengthening shadows of an autumnal day had warned us of the near approach of winter? and even if it should then at length be attended to, is it probable that the subject would be more safely handled in the dim twilight of declining age, than in the broad sunshine of vigorous maturity? There is too much reason to fear that the habit of procrastination, which is at present so much to be deplored, would then be greatly increased. The certainty of the continuance of health, and of the slow approach of death, would operate to lull our fears to sleep, and when once this effect had been produced, it would be extremely difficult to waken them again in sufficient time to make the necessary preparation.

Nor would the occasional occurrence of violent death from accidental causes, tend, in any material degree, to disturb that result. We know that, at present, the extreme rarity of such events operates effectually to prevent their exercising

much influence on the mind; and even were their number to be considerably increased, they would still be destitute of many circumstances that attend an attack of sickness, and that are peculiarly fitted to make an impression upon the spectators. Were men to be generally removed from the world in this way, by a sudden stroke, in the midst of youth, and health, and activity, without a warning, and without a moment of preparation, it is to be feared that the consequences would be most deplorable. Every man's mind would be occupied by an ill-defined and indescribable dread of impending danger—his aptitude for business would be destroyed—the zest of pleasure would be quenched; but the subdued and salutary tone of mind that is induced by the prolonged and preparatory process of the ordinary attacks of illness would be altogether wanting.

How different from this is sickness! How admirably is it fitted for the particular purposes it is intended to effect! Though it does occasionally accomplish the work of destruction in a moment, as in apoplexy, and some forms of hemorrhage; yet, how rare is the occurrence! Usually it heralds its approach by some note of warning, and the citadel is seldom taken until the close of a more or less protracted siege; so that the inhabitants can enjoy the full confidence of security until the enemy has formed his lines of

investment. And yet, while it thus effectually guards against the formation of a settled gloom on the mind, which would necessarily follow were it to be continually oppressed with a sense of impending insecurity, it answers the other equally necessary purpose of preventing the growth of indifference, that would be produced by the universal enjoyment of protracted old age. It waits not till the leaves that have played in the summer breeze have turned yellow to shake them to the ground. It spares no age, nor sex, nor condition. All are equally exposed to its devastating influence—all are equally obnoxious to its remorseless stroke. It is this that makes every funeral that passes along the streets a solemn warning to the spectators. They may know nothing of the name, or age, or history of him who is thus carried in solemn silence to his final resting-place. They may, perhaps, care to know nothing of these things, as they hurry past to their business or their pleasure. Yet it speaks in impressive tones notwithstanding. They cannot look upon the dark emblems of the mournful procession without being sensibly reminded of the uncertainty of life, and without the question being involuntarily suggested to their minds, who knows how soon I may be carried in a similar manner to the house appointed for all living? Were death an event limited to the old and grey-

headed, all this salutary impression would be done away. The young and thoughtless might then look on in unconcern, secure in the consciousness of having a long life to spend, before the dread disturber of their enjoyment would approach. Nor is it merely by rendering the duration of life uncertain that disease operates thus beneficially in awakening attention to eternal things. No; it tends at the same time, in a remarkable manner, to deepen the solemnity of the event, and to touch the feelings of the survivors. An unexpected casualty may terrify by its appalling suddenness; it may create a blank in the social circle; it may distress the immediate relatives by taking away their principal support; yet it must always want much of that impressiveness which it is so desirable to secure by the very rapidity of the stroke. Disease, on the contrary, as we have said, seldom accomplishes its task without some interval of warning. Can any thing be conceived better adapted to make a serious impression upon the spectators than this very circumstance? When death enters a family, it is no longer an abstract speculation, seen at a distance, and little regarded. It comes home with a force to every member of the household, which it is impossible to exaggerate. How much is there in the suffering of the patient to remind an intelligent spectator of the frailty of his own nature. How much in the expressions and

temper of the sick man to awaken serious self-examination. And then the length of time that he lies upon the dying couch, though it may familiarize in some measure the mind with the solemn scene, is certainly calculated to prevent its being easily forgotten. Still further, look at the impression that is made upon society at large. Not only the immediate connexions of the individual are made to feel that death has been among them, but even casual strangers have the same truth forced upon their attention, though not to the same degree. Every death that takes place in the active period of life creates a blank in the circle of society of greater or less extent, in proportion to the position the individual occupied. Just as the gigantic elm, when prostrated by the winter hurricane, has the earth widely torn up by its roots; so society is convulsed by the removal of every man of position and of active usefulness. How many chains are broken by the dropping of a single link! How many plans are disarranged! How many helpless dependents are thrown upon the world. New occupants, it is true, fill the vacant places; but the change is generally striking and permanent. Every one feels that the ruthless hand of the grim tyrant has been at work. Even in this aspect the force of the impression derives much of its strength from the age at which men generally die. Were it to occur in advanced life

only, how little would the event effect the survivors. Very old men usually retire from the active duties of life long before this event reaches them. They are buried in the bosom of their families, and excite no interest among the public. They are forgotten and unheeded. Even to their immediate relatives their removal is rather a release than a calamity. Pressed down by the weight of years, they are a burden to themselves and to every one around them. Like a shock of corn fully ripe, whose attachments have been all dried up and withered, they fall gently to the ground, and leave no scar behind. Death by disease evidently makes a greater impression upon society than death by old age; and in so far as it does, it answers a useful purpose.

But there is still another purpose, of a somewhat different character, which disease serves to accomplish, and that deserves to be noticed—that is, its affording a fitting field for the exercise of the charities of our nature. The tender graces that have survived the fall of man, and that still shed a lustre upon his character in its present degraded condition, require to be called into activity, before their force and beauty can be discovered. The glory of God requires them to be displayed, in order that He may receive the praise that His handiwork is so justly entitled to. The interest of man himself equally requires them to

be brought out into active exercise, in order that they may be strengthened and increased. Like the muscles of the body, they must be used if they are to retain their vigour and to grow. It is in subservience to this object that the web of society has been so closely knit together by the cords of sympathy and self-interest, and that so many circumstances occur to call for mutual co-operation. At no period of our existence are we rendered completely independent of our fellow-men. From the cradle to the grave we are continually receiving in one shape or another, some material assistance from those around us, without which it would be impossible for us to exist; the design of which is evidently to promote harmony and good feeling between the various members of the race, by the necessary interchange, from time to time, of the little acts of kindness that these necessities call forth. But at no period is this more apparent than when we are stretched upon a bed of sickness. In the intense severity of pain; in the feverish excitement of the nervous system; in the protracted loss of sleep, there is every thing calculated to call forth the tender attentions of a susceptible heart. And it is seldom, indeed, that such a call is not responded to. The most desolate, the most abandoned of the human family generally find in those trying seasons some generous spirit to speak a word of kindness, and

to minister to their wants. All their former errors are overlooked in the overwhelming conviction of their present necessities. But when sickness appears in circumstances favourable to the full development of the finer feelings of our nature, how beautifully are they exhibited. The skill of the physician; the sympathy of friends; the anxiety of the immediate relatives; the tenderness of the mother; the devotedness of the wife, are all exerted to the utmost. No means are then left untried to ease the aching head, to quiet the apprehensions of an agitated mind, or to subdue the agony of bodily suffering. With what self-denying devotion, at such times, will a faithful friend watch at the bedside for nights together, to discover the least change in the symptoms of the disorder, and to minister to the slightest of the patient's necessities. With what exquisite gentleness is the least alteration in the sick man's position effected. With what eager anxiety is a discovered want supplied, or a suspected wish anticipated. How often does the period of sickness prove to be an occasion for making a man acquainted with a number of real friends, who take an interest in his welfare, but who were previously strangers to him. What delicate little attentions are then paid even by casual acquaintances, which would be carefully avoided at another time, lest they should be considered intrusive.

Is it not well that there should sometimes be an opportunity afforded for such a gratifying display as this? Can any thing be conceived more calculated to promote the best understanding, and the kindest feelings between man and man, than the interchange of these acts of attention? Can any thing be more really beneficial to the person who is engaged in performing them than the very exercise in question?

We have yet some other advantages to notice, as resulting from the existence of disease; but we may be permitted to ask, before proceeding, do we not see sufficient, in what has been already advanced, to justify us in drawing the conclusion, that there are wise and useful ends answered by this instrumentality, which, so far as it is possible for us to determine, could not be accomplished by any other arrangement?

CHAPTER IV.

ON THE VARIETIES OF DISEASE AS IMPLYING DESIGN.

We have hitherto confined our attention to the mere fact, that such a thing as disease exists in nature, without considering whether it is uniformly the same destructive process in all cases, or whether it assumes, as we know it does, different forms in different cases. If there has been any force in the argument, as already presented to the reader, it becomes still more conclusive, when the latter circumstance is taken into account. So far as the mere object of rendering the duration of life uncertain is concerned, it is obvious that it might have been as effectually secured by a single malady attacking different individuals as by a multitude. For the age at which men would die in that case, would be just as various as at present. There would be no more reason for any man calculating on his living to a fixed age then, than there is, under existing circumstances, of his calculating on his living to a century. For example—let us suppose that men, instead of dying of a multitude of different complaints, as we know happens at present, were to die of one disease only, and that one consumption, what would be

the result? Would it necessarily occasion them to die at one fixed and unvarying age? Not at all, there would still be a very great diversity in the periods of life, at which different individuals would die. We have selected this complaint, because it, more than any other, is supposed to be invested with the property of proving fatal at a particular epoch. That epoch, within certain limits, is pretty accurately observed. But though these limits are sufficiently extensive, we by no means find the ravages of the disease strictly confined to them. Multitudes of cases occur both before and after them. Nor is this difficult to be accounted for. The development of the complaint in the first instance, as well as the rapidity of its progress, are both regulated by two independent elements, which to a certain extent influence each other. These are the constitutional predisposition, and the exciting cause. When these act in conjunction, and when they are highly developed, the result is proportionally accelerated. When, on the contrary, they are but slightly developed, or, as it were, act in opposition, the fatal issue is retarded. The consequence is, that both the commencement of the disorder in any instance, and the interval required for it to arrive at maturity, are extremely uncertain.

These two circumstances, the epoch of the commencement of the disorder, and the rate of its

progress, necessarily exercise an important influence on the period of its final termination, and therefore render the age of its victims essentially uncertain. Now, if this be so in reference to a disease, whose constitutional origin is so obvious, how much more forcible is the argument when applied to the attacks of fever, severe inflammations, and other maladies, whose development is to be traced to the operation of external influences alone, inasmuch as these latter depend upon circumstances which may act at any period of life, and which it is impossible to foresee or avoid.

But though the effect, taking it for granted that the design of the existence of fatal disease is, in part at least, to render the duration of life uncertain, would be equally secured by a single malady as by a multitude, the impression of that uncertainty is infinitely greater in the latter case than in the former. Not only the number of diseases, but the variety in their symptoms, duration, and progress, has a tendency to augment this effect. Who can tell what form the grim invader may assume when the assault is made upon himself—whether he shall come with the slow but unerring step of cancer or marasmus, or whether he shall surprise the citadel of life by cholera, apoplexy, or aneurism? Even when a well-marked predisposition to some hereditary complaint gives a sort of assurance, that a man's removal from the world

shall be accomplished in a particular way, how often is the calculation cheated of its fulfilment by the unexpected advent of some new and fatal seizure of a different kind. If a single disease were employed by the supreme Disposer of events for this purpose, the human mind would soon become familiarized with its various phases, and in that familiarity much of the impressiveness of the present lesson would necessarily be lost.

But here it may be said, as an objection to this view, that if the purpose for which the Divine Being has made life uncertain be, to induce us to make a suitable preparation for the approach of death, so that our eternal destiny in a future state may be a happy one, this object would be more effectually accomplished by the appointment of a single malady, instead of a variety, provided it were a lingering one, such as consumption. Such an arrangement, it may be thought, would give every man a timely warning of the approach of death, and a sufficient interval to make the necessary preparation to meet it properly. Whereas, at present, owing to the rapidity of some maladies, and the attending circumstances of others, no man can be sure of enjoying these advantages. In some cases reason loses its dominion from the very moment of seizure, and the opportunity of preparation never returns. In others, though the intellect remains clear enough for the purpose, the

interval is too short, or the pressure of other matters too great, to allow of this subject being properly attended to. In others, again, the confusion incident to the crisis, the absorbing endeavour to allay the patient's suffering, and the delusive hope of recovery, occupy the time fully till the opportunity is irretrievably lost. And in other cases still, though the danger is imminent, the individual himself is not aware of his situation; and his friends, in their anxiety for his welfare, peremptorily forbid the slightest allusion to the subject, lest the announcement should be productive of injury, and the feeble hope of amendment should be utterly extinguished. All this, it is imagined, might be avoided by the substitution of a different system. But even though it should be conceded that a death-bed repentance would more frequently follow such an alteration in the arrangement of disease, it by no means proves that the Infinite Disposer of all things has either erred or been deceived in making the appointment in question. His design evidently was, not so much to bring men to a death-bed repentance, as to impress them with a sense of the danger of postponing their eternal interests to the uncertain issue of a dying hour: that so they might be constrained to lay these things seriously to heart in the full vigour of their health and strength. Viewed in this light, there can be no question that the existing

arrangement is infinitely better adapted to fulfil its purpose, than the one under consideration. Even as it is, multitudes we know are found mad enough to act upon the chance, that they shall yet have time enough allowed them, before the fatal issue shall occur, to answer all the purposes that are required; and under this impression they give themselves up unreservedly to the gratification of the passing moment. How would the number of such persons be increased; how would their confidence be augmented, if they were to be assured by an established law of nature, that their removal from the present scene of existence would be a tedious process, accompanied by unerring symptoms of its approach, and affording them, in the unclouded possession of their faculties, a full opportunity of at last learning to be wise ere it should be too late.

But it may be questioned with great reason, whether the proposed arrangement would really accomplish the object that is here taken for granted: whether, in fact, a death-bed repentance would even, under these favourable circumstances, be more common than it now is. Before, however, proceeding to consider this point, it may be well to notice a preliminary objection to the supposed arrangement, and that is, that such a course of proceeding—an unvarying disease, acting uniformly in all cases—would be altogether at vari-

ance with the rest of the divine works. In no part of God's creation are we able to detect a dull uniformity. All nature teems with an endless profusion of diversities. The birds of the air, the cattle of the field, the fishes of the sea, the very plants of the earth, all exhibit, in matchless beauty and in inconceivable number, this remarkable feature. Nor is it confined merely to the distinction that prevails among the separate species of each kind of animated nature, and which may be supposed to have their origin in the constitution and wants of those species. It is carried to an infinitely greater depth, and it displays itself in circumstances where no consideration of the kind can be supposed to exist. Individuals of the same species, whose uses and nature are the same, are yet strikingly unlike. Surprising as it is to think, that in the countless millions of the human race no two individuals are exactly alike, yet it is infinitely more surprising to know, that no two leaves in the forest are accurately similar; for while the former require, in the purposes of God, to be distinguished from each other, with a view to their identification in a state of retribution, no such reason can be adduced to account for the latter.

This law of dissimilarity, if we may so speak, seems to have been formed, in addition, perhaps, to other reasons, for the purpose of impressing

us with a sense of the infinite vastness of that omnipotent intelligence, that can thus strikingly diversify the works of His hand, while He impresses them at the same time with the unmistakable evidences of His wisdom, and goodness, and care. And why should this variety exist everywhere but in disease? If it were absent there, would not this very absence lead us to infer that it could not be really the work of God, since it would be so clearly deficient in one of the plainest attributes of all His works?

This very variety then serves an important purpose in the chain of reasoning, that traces up the existence of sickness to the hand of Him who made the earth and the heavens.

But there is a special reason for this variety, derived from the consideration that man is an accountable being, and as such subject to the direct moral government of God. It is needless to remark, that all God's creatures, so long as they exist, must be under His control and government. But the laws which regulate their movements differ remarkably, according to the nature they possess. For example—matter, from its unconscious and passive character, is possessed of no power to modify or control the external impressions to which it may happen to be exposed. The properties of mutual attraction and repulsion, in proportion to its mass, produce uniform and unvarying effects,

because there is no inherent power of resistance in the dead elements of which it is composed. When we ascend in the scale of creation to living organized beings, whether vegetable or animal, we discover a real inherent principle of resistance to the external circumstances in which they may happen to be placed. It is not perhaps absolutely perfect, but it is at all times apparent; and the higher we proceed the greater does it become. In the inferior animals, for example, the control under which they are placed, partakes more or less of the character of physical necessity. In them the governing principle that regulates their voluntary actions, is instinct—a faculty that acts with a rapidity, an accuracy, and a propriety that far exceeds the slower processes of intellect. And while this faculty, in one sense, may be considered as regulated by the volition of the animal, inasmuch as it always corresponds with its agreeable emotions; in another it is not so, being controlled entirely by the external circumstances in which the animal, for the time, may happen to be placed. The design of the creation of the inferior animals, we have reason to think, was not so much to answer an end connected with themselves, as to fulfil a subordinate purpose connected with the human race. They are not accountable agents, and hence it is not necessary that each individual among them shall be treated in a manner calcu-

lated to make his actions peculiarly distinct. They are grouped into masses, rather than isolated as individuals. Except so far as domestication by man is concerned, the members of every species have been placed, since their original creation, in the same general circumstances. At birth, and throughout life, each individual has the same advantages and the same disadvantages as the rest of the species. The later members are not more knowing, more comfortable, or more civilized than the earlier.

But when we come to man how different is his position. What diversities prevail throughout the race, not only in different ages of the world, but in the same age and in the same country. How different the rank, comfort, education, and advantages of one man from those of another. No two individuals appear to be placed in precisely similar circumstances. Every thing connected with his being proclaims that he is a creature of a distinct order from the inferior animals, and formed for a different purpose. It is his constitution as an intelligent creature, and his responsibility as a moral agent, that cause all the difference; and the great truth which it is intended to force upon his attention is, the *individuality* of his character and conduct. He is not to be led blindly by a few general principles, in the same manner that instinct produces its effects, without

his knowing why, and without his taking time to inquire. He is to reason upon all he does, and to be satisfied of the propriety of any course, before he hurries into it. Neither is he to be a servile imitator of others, who may appear to be placed in a position similar to his own. The possession of reason enables him to form an opinion upon every question that comes before him; and the whole circumstances of his condition emphatically declare that the entire responsibility of his conduct rests upon himself alone. Now, if this be true, is it not apparent that any thing which would have a tendency to weaken this conviction—that any thing which would lead men to suppose that they were governed by *general* principles solely, and would be subject to a common and not a personal responsibility, would certainly prove injurious to their real interests, inasmuch as it would lead to a less careful examination of their individual actions, and a less anxious consideration of the consequences resulting from them.

Such an effect, to a certain extent at least, would be produced by the appointment of one unvarying mode of death, acting uniformly in all cases, inasmuch as it would destroy the analogy of nature, and disturb the harmony that exists in the arrangements of life.

But to resume. A little consideration will lead

us to conclude that the substitution of a lingering disease for the present uncertain system, would not be calculated to effect the end intended. So long as health continued, men would evidently be less concerned about a future state than they are at present; calculating, and with reason, upon receiving warning in sufficient time to enable them to make the requisite preparation. Its only effect would evidently be, to lead them to postpone the duty till the necessity for its performance should arise. Now let us suppose any individual actually attacked with the premonitory symptoms of the fatal disorder—which we shall imagine to be consumption—would he be immediately ready to enter upon that duty which he has so long and so frequently postponed? Would not the very idea that the disease would be protracted, exercise a soporific influence upon the mind, and lead him to procrastinate still further till the symptoms should become more marked, and the danger more urgent? And when once this fatal habit has been formed, would it not acquire strength with each additional indulgence, till at last the opportunity, so long and so graciously vouchsafed, should be hopelessly lost? Besides, it must not be forgotten that in consumption, and indeed in other lingering complaints also, there are two circumstances which materially interfere with the patient being convinced of his

condition, and so being prepared to derive that warning from the invasion of the malady that the hypothesis supposes. These are first, the long period during which, in many cases, the disease remains latent, by which it is to be understood, its existing without the obvious signs of its development;* and, secondly, the long period during which the hope of recovery continues to prevail. This, notwithstanding the assurances of the attending physicians, and the manifest marks of an incurable malady, will often delude the victim till the last moment of existence; so that he is frequently persuaded in his own mind, immediately before the fatal event, that he is about to get speedily and permanently well.

But it must not be forgotten that disease is not sent into the world for the sole purpose of reminding us of our approaching death, and warning us to prepare for it. Were it so, disease would be uniformly fatal. They would not exhibit those

* This point is particularly deserving of attention. Owing to the latency of the disorder, a man is often far gone in consumption before he is either himself personally aware of the fact, or his most intimate friends have suspected it, so gentle, in many cases, is the approach of the fatal event. Louis, one of the highest authorities on the subject, states, that fully a fifteenth of all cases are latent during some part of their progress, often extending from six months to two years.—(*Sydenham Edition*, p. 432.) In such cases the warning, if previously relied on, would be fearfully indistinct.

differences in severity that we find extending, from the most trifling indisposition, to the most alarming illness. A death-bed repentance, and a satisfactory settlement of accounts, before the final audit, is what every man wishes for, whatever his conduct during life happens to be; and if he could be sure of these, little else would trouble him. But this is not the design which God has formed for man; neither is it consistent with his real happiness. What God intends, and what man really requires, is that his *whole life* should be under the influence of religion; in other words, that he should enjoy habitually communion of soul with God, and be possessed of peace in that communion. In this point of view the slighter forms of illness are calculated to prove peculiarly useful. They bring home to every man's door the consciousness of his own mortality. They change a mere impression, floating in the mind, but little thought of, into a stern reality, actually felt and experienced. Like the expostulations of the prophet, they apply their warning directly to the offender, and say, "Thou art the man." In many respects the slighter attacks are more useful, in awakening serious attention, than those which are fatal. In the latter, even when the intellect remains clear, and the patient has time to reflect, the conviction of impending death so overwhelms the mind and fills it with terror, that

it is unfitted for seeking reconciliation with God. In the former this apprehension is absent, and the mind is, consequently, calmer in its operations. In fatal attacks the patient has often no interval free from pain. In mild ones, the period of convalescence is eminently calculated to allow of quiet and profitable reflection.

For these reasons, then, it is wisely arranged that there should be not only fatal diseases to remove man from his present sphere of existence, when he has spent, like an hireling, his day, but mild ones also; and we shall find, as we proceed, that one of the most remarkable features connected with the course of disease is, the number and variety of provisions they present, to ward off danger, and to convert maladies, that would otherwise be incurable, into curable ones.

But, independently of the advantages already hinted at, as presented by the slighter forms of illness over the more serious, is it not obvious that the recovery of the patient enables him to exhibit, in his subsequent conduct, the happy results of the affliction he has gone through. Society is but little the better for any alteration in a man's views that takes place upon his dying bed. But when he is permitted to rise up from his illness a new character and a better man, how great is the advantage. His whole conduct is

changed. His example, his influence, his admonitions are all productive of good to the circle in which he moves.

There are three obvious ways in which every attack of illness is calculated to produce a beneficial impression upon the mind. First, in suspending the ordinary engagements of life. How many are so absorbed in business or pleasure that, were it not for the interruptions thus occasioned, their minds would never be taken off their farms, their merchandise, or their usual pursuits. Yet, when sickness comes, necessity lays its iron hand upon the struggling victim, and obliges him to desist; the mind becomes no longer capable of thought; the intellect is clouded, and the feeble frame, helpless and incapable of exertion, is chained to its chamber and its couch. Even when he awakes from the unconsciousness of stupor, or the ravings of delirium, how long is it before the exhausted mind can apply itself to its wonted occupations. All this is evidently designed in mercy to the patient. The second way in which illness proves useful is, in lowering the tone of the spirit. In the heyday of health how prone is man to feel confident in his own resources, and independent of the Great Being from whom he derives his existence. He is ready to say, with the Egyptian king, "Who is the Lord, that I should obey his voice?" But the case is

altered when the exuberance of health has departed. Not only does the strong man become weak, but the valiant man becomes timid; a sense of sinking occupies the soul, and there are misgivings within. This arises from the connexion subsisting between the physical organization of the body and the intellectual principle. The third way is, in affording an interval for quiet reflection between the period of attack and the resumption of employment. In all these respects it has a vast superiority over other forms of affliction, which are sometimes used in the economy of grace for the accomplishment of the same object; and it exhibits a peculiar suitableness for producing all those effects that a careful examination of man, and his condition, shows us to be necessary for his present happiness and his future welfare.

CHAPTER V.

ON THE PAIN OF DISEASE, AS EVIDENCING DESIGN.

There is no symptom more generally present in disease, or more striking in its character, than the pain that accompanies it. It is this which renders the visitation so trying to the generality of patients, many of whom, especially in the higher ranks of society, would endure, without complaining, all its other inconveniences, were it not for the personal suffering it occasions. And it is this, more than any thing else, which has given rise to the idea, that illness is to be regarded as a judicial visitation, and as an expression of the divine displeasure against the person afflicted. This idea rests upon the supposed connexion between punishment and suffering, as cause and effect; but, however constantly associated these two ideas may be in the mind, there is no necessary connexion between them in reality. We often meet with what is intended as a punishment, where there is really no suffering, and *vice versa*; as for instance, in human tribunals, where, owing to the limited and imperfect power of the judge, it becomes impossible to render the decision of the court sufficiently effective on the one hand;

and on the other, where an innocent person falls unjustly under suspicion, and suffers imprisonment previous to trial.

It will scarcely be denied that nothing ought properly to be considered as a punishment, which is not *intended* to be such. This is obviously the case in the proceedings of human tribunals; and it is equally true in reference to the divine government. But in investigating the subject in the latter point of view, the difficulty consists in discovering what is really the intention of the Great Moral Governor in any appointment of His providence. Many persons are in the habit of speaking very loosely upon matters of this kind. They discover, in the conduct of an individual, or of a community, a certain thing, which is admittedly improper; and they discover subsequently, in the experience of that individual or community, some calamity; and they forthwith infer, on the *post hoc propter hoc* principle, that the calamity is designed as a punishment for the misconduct. But this appears to be altogether an unwarrantable course of proceeding. Even when we are able to trace an obvious and close connexion between the supposed cause and effect, we are to determine the divine purpose in the appointment, by a careful examination of the whole aspect and circumstances of the events, rather than by the single element of suffering.

Take the case of a father who squanders his property in idleness and vice. His family are plunged, in consequence, in all the horrors of want and wretchedness. The opinion commonly entertained of such a case is, that the children are punished for the improvidence of the parent. But this is evidently an erroneous idea. They are the innocent victims of another's guilt; and, as such, though involved in the consequences of his misconduct, are not amenable to punishment. The father, it is true, is punished in the loss of comforts, to which he was previously accustomed; in the contempt of the world; in the neglect of his former associates; and, above all, in the consciousness of having been the means of ruining his family. But, so far as the children are concerned, the whole train of events may prove a blessing instead of a calamity; it may place them beyond the reach of temptations they would have been unable to withstand; and it may lead them into positions of greater activity, usefulness, and comfort, than they would otherwise have occupied.

The mere circumstance, then, of any person in the present life being exposed to suffering, is no proof that he is obnoxious to punishment, or that he is peculiarly subject to the divine displeasure. On the contrary, it may be laid down as an indisputable position, that, wherever we can discover, in any arrangement of the kind, plain

and obvious proofs of a wise and salutary purpose, to be accomplished by the appointment, we are justified in considering it as an evidence of the tender care exercised over His creatures by the Great Disposer of all things.

This is emphatically the case with the pain of sickness. Though always irksome to those who are the subjects of the attack, and often almost intolerable, it requires but a little attention to discover that it is fraught with the most beneficent advantages to the human race, and that it exhibits at once the wisdom and the goodness of Him from whose appointment it proceeds.

I shall first speak of the useful ends that pain, considered generally, accomplishes in disease, without referring to its intensity or peculiar character; and I shall, subsequently, direct attention to the more striking modifications that it exhibits in different cases, with a view to show that the very variations of the symptom only tend to confirm, in a stronger manner, the soundness of the conclusion we have arrived at.

The first, and most obvious purpose that it is intended to serve is, to give us timely warning of whatever deviations from a state of health happen to take place in any part of our bodies. Were it not for this, many diseases would occur without the patient being cognizant of their having happened. With the exception of the class of

dislocations, the mechanical inconvenience of which gives timely notice of their occurrence, we should be ignorant of almost all the other accidents or diseases we are subject to, only for the pain that attends them. Bones are often broken without the person's knowledge, so much so, that the surgeon who detects the nature of the accident finds it difficult, from the little suffering it induces, to persuade the patient to believe that he has met with so severe an injury. Again, persons in fever are occasionally found pursuing their ordinary avocations, and even walking considerable distances, after they have been attacked, to their own manifest injury, simply because the absence of pain has destroyed all consciousness, on their part, of their being unwell. Connected with this use of pain, and arising immediately from it, is the service that it renders to the individual, in prompting him to take effective measures for the recovery of his health so soon as he has been warned of the actual invasion of illness. The means which nature has provided for the restoration of the body to its original healthy condition may be divided into two classes. One, independent of human agency, consists in the secret arrangement of certain salutary processes, which act by themselves, without the volition or consciousness of the individual. The other depends upon the exercise of his own

faculties, which direct him to adopt the requisite measures for his benefit that reason and experience prove to be best adapted for the purpose. The first of these classes require no warning sentinel to stimulate them to vigilance. At the moment their services are needed they are found busy at their posts. But the second is essentially dependent upon the friendly notice that the pain we have been considering usually gives of the approach of disease.

When a man fractures one of his ribs, the injury considered by itself, is not of much consequence. The chest can still be expanded and contracted sufficiently for the purposes of respiration, by means of the other bones of the thorax which retain their integrity. But though of trifling importance abstractedly, it may lead to secondary results of the very highest moment. The ends of the broken bone striking against the delicate membrane that lines the chest, may give rise to inflammatory action of such intensity, as to endanger life, or it may produce effusion of fluid, and thus permanently embarrass the breathing of the patient. The pain, however, which such a state of things invariably induces, calls attention at once to the danger, and leads to the adoption of appropriate treatment for its removal.

In the treatment of fractures, as indeed in all other processes of reparation in the animal frame,

the vital forces of the part are the great agents in bringing about the union of the bones. All that the surgeon can do is, to place the parts in the most favourable position for the purpose, and to assist nature, as far as may be necessary, by appropriate constitutional management. It follows from this, that when the parts have been properly adjusted, and the bandages applied, it is to be regarded as a settled principle in surgery, not to interfere with them unnecessarily afterwards. Indeed, if it were possible to maintain them accurately in the same position in which they were first skillfully placed, it would be every thing that could be desired. But unfortunately this is not the case. Several circumstances concur to disturb the result, such as the utter impossibility of a patient maintaining, all through the tedious process, the same unvarying posture day and night; the impossibility of controlling altogether the muscular action of the limb; and the impossibility of counteracting entirely the force of gravity, which acts silently but constantly upon the separated fragments;—these, however carefully the surgeon may endeavour to prevent their producing their natural effects, will still in time, more or less, alter the position of the parts, so that if care were not taken to prevent such an occurrence, it would be found at the completion of the process that the union had taken place in an un-

natural manner; the limb being more or less shortened, and the bone twisted on itself to the manifest inconvenience and annoyance of the patient. Here, then, the sensations of the patient furnish useful information for the management of his case. So long as the parts retain their proper relative position, so long he feels the limb comfortable and free from uneasiness: but as soon as they depart from that position, pain is produced. It is thus seen that a most valuable help is afforded in this way to the determination of the important question, whether the bandages should be opened at any moment, or whether they should be left undisturbed, so as not unduly to interfere with the process of union on the one hand, and not to suffer it to proceed in an improper manner on the other. The development of pain infallibly gives notice, that all is not going on as it ought to do, and puts both the patient and the surgeon on their guard, while its absence, on the contrary, is a tolerably sure evidence that matters are proceeding favourably to their determination.

Another purpose which is served by pain is, that it materially assists the physician in determining the seat and nature of many of the internal ailments which the body is liable to, but which, from their position, present considerable obscurity at first. This is the case with inflammation of the liver, lungs, stomach, brain, &c., the treat-

ment of which, though possessing certain points in common, differs in each case according to the difference of their structure and function. To enable the practitioner to decide the proper course to be pursued, he must be able to determine beforehand what is the particular affection he is called upon to manage. Yet this is often a matter of some difficulty. The constitutional symptoms in all are so very much alike, that no material assistance can be derived from that source; and although there are other symptoms of a peculiar character depending upon the form, position, and office of the different organs, which, when discovered, leave no doubt upon the mind as to the nature of the affection, yet they are generally too obscure in their earlier stages, and too slowly developed, to answer the purpose of giving an exact and timely intimation for the purposes of diagnosis. But the pain of the attack comes in opportunely to assist in solving the difficulty: it appears at the onset, just at the very moment when its indications are of most importance, and it points out, generally with great accuracy, the part of the body principally engaged, and which, but for the hint thus given, might very possibly have been overlooked.

In proof of this statement we have only to look to those diseases which are scientifically denominated "latent." Absence of the usual

characteristic symptoms is the prominent feature of the class: hence the name. Thus a person may be labouring under inflammation of the lungs, and yet have no cough, no difficulty of breathing, no expectoration, nor even any obvious degree of fever. Such cases are not uncommon. So trifling may be the patient's indisposition, that he may not be aware of his real state, and may scarcely be inclined to credit it when first informed of the fact. The same thing may happen in inflammation of the pleura—the membrane that covers the spongy texture of the lungs. We may have an amount of fluid in the chest sufficient to produce enlargement of the side, and to displace the heart and other viscera, without the ordinary symptoms that such an affection is calculated to produce. Now, what is it causes the latency of these and similar affections? What is it stamps upon them that obscurity beneath which they form and advance, till mechanical alterations are produced that force themselves upon our notice, and proclaim in unmistakable language the mischief that has occurred? Doubtless, it is the absence of pain, or its scarcely perceptible amount. Had it been more acute in the onset, it would have attracted the attention of the patient himself, and have imperatively called for that relief which would have prevented the ailment proceeding to such a height.

Another useful purpose that the existence of pain secures in the animal economy, is the imposition of a restraint upon the use of diseased parts, without which it is impossible for recovery to take place. It has been already stated that nature herself is the great agent in the work of cure. For the accomplishment of her task it is absolutely essential that her operations should not be interfered with, but that they should be allowed to proceed uninterruptedly in their proper course. Hence, perfect quietude is a necessary condition of their successful termination. If a man sprain his leg, and the parts become inflamed, he must cease to walk on it before he can get well. If the eye become attacked by ophthalmia, he must wear a shade, and give up the use of reading before he can reasonably hope for relief. All this is proved by every-day experience; but men are naturally so impatient of all restraint upon their personal liberty, and the calls of pleasure or of business are generally so urgent, that it is often a matter of much difficulty to induce them to submit to the confinement that is necessary for the recovery of their health. Were it not for the pain that attends the use of diseased organs, many persons would not be induced by any considerations to submit even to the most trifling privation, but would pursue their ordinary avocations utterly regardless of the consequences. But the actual

suffering that each indulgence in this pernicious course is sure to entail, as well as the relief that is produced by the opposite line of conduct, generally succeed in constraining most men to act in a way consistent with their real interests. It is owing to the little pain that attends the slighter forms of indisposition that many of them run a protracted course, until they become difficult of cure, or lay the foundation of permanently impaired health.

We have still another instance, in the process of parturition, of the beneficial effects that pain is capable of producing, though the process itself does not properly belong to the category of disease. This is exemplified in its property of restraining for a time actions, that, if permitted to take place, would be attended with injurious results. Every one knows the severity of that trial which a woman has to endure when she is about to become a mother; insomuch, that the expression has passed into a proverb, to denote agony of peculiar intensity. It may reasonably be inferred, that if there be any truth in the views put forward in this essay, there ought to be discoverable in this process some peculiar advantages resulting from the arrangement, where the suffering is so great; that this is really the case, has been clearly established by the most scientific observations.

The process itself requires a certain interval

of time, for the purpose of having those changes effected in the maternal organs that are necessary for the safety of both mother and child. Any thing that would tend to hurry forward the process before these changes have been effected, is found to be in the highest degree injurious. In the production of the changes themselves two mechanical forces of different kinds are employed—one the voluntary efforts of the mother, acting through the medium of muscles, which are subject to her will; the other a set of involuntary structures which act of themselves, and which she has no power to control. In the earlier stages it is the latter set of forces that are employed, and until they have accomplished their work the former can only embarrass the proceeding. But the natural impatience of the mother, ignorant as she is of the importance of remaining quiet at this time, can scarcely be restrained till the proper period has arrived at which her efforts can be put forth with advantage. She is thus prompted by the feelings of the moment, to make exertions which are not only useless but injurious. The pain, however, that nature has planted as a sentinel on this trying occasion effectually restrains such premature attempts, till the period has arrived at which they may be safely permitted, and just as that period approaches the character of the sensation alters,

and the intensity of the suffering diminishes, so that the mother is enabled to put forth the full power of expulsion at the very moment when it is most needed. It is foreign to the purpose of the present essay to enter into the controversy that has been raised between the advocates and opponents of anaesthetic agents, relative to the question, whether it is justifiable or not, on religious grounds, to resort to such expedients in ordinary cases, because, whichever view be adopted, the utility of the pain must be admitted. In the one case, where nature is left to herself, the pain acts as a safeguard, by delaying for a time the contractions of the voluntary muscles; in the other, where an artificial expedient is resorted to, the pain is superseded, but the state of insensibility that is induced answers the same purpose, by allowing, as the advocates of chloroform maintain, the involuntary contractions, which are not under the control of the individual, to proceed undisturbed.

Who can reflect upon those various uses of pain, without being struck with the goodness that prompted the Divine Being to attach such a provision to our constitution; and with the wisdom that presided over the contrivance? Who can enough admire the simplicity of the means on the one hand, or its sufficiency on the other? Let us suppose for a moment, that this mode of indicating the existence of disease were done away—

that the beneficent Author of nature were to reject a condition so distressing to his creatures, what substitute can we imagine Him to supply in its place, that would at all answer the purpose? It is quite clear, that if it is to be a symptom that will give notice of morbid action of any kind taking place in any part of the frame, it must be a modification of the patient's natural sensibility: nothing else would awaken his attention to the fact of such a change having occurred; and if the sensibility be modified, how else can it be modified except in the way of pain? No sensation that is merely indifferent would accomplish the object, much less would one that was agreeable. Either of these might call attention to the fact, that a change had taken place in the vital action of some of the organs, but they would not alarm him by the idea of danger; they would not excite him to take immediate steps for the correction of the evil; they would not impose upon him the restraints necessary for his perfect recovery. Pain, on the contrary, is a symptom universally understood; its voice is immediately heard; its mandates are not lightly to be disregarded. So far as we can see, no other provision could be devised that would effectually accomplish the same objects, while free from the suffering that the present one is attended with.

Besides the foregoing, which may be called the physical uses of pain, because they have especial

reference to the preservation of the physical structure, there are others, no less interesting and important, which have reference to man as a moral agent, and which may be denominated its moral uses. The first of these I shall notice is, its forcing upon the mind a conviction of the frailty of our nature, and awakening it to serious reflection. It is not saying too much to assert, that were all kind of suffering removed from disease—were it possible for a man to be seriously ill, and yet enjoy all his accustomed pleasures, it would be impossible for him, constituted as he is, to derive any lasting benefit from the visitation. As it is, we know that multitudes are attacked with illness who never derive any real advantage from it, but this is in some measure caused by the pains that misguided friends take at such times to conceal the patient's real danger, and to occupy their thoughts with other matter. But there would be no necessity for such well intentioned, but most mistaken kindness on the part of relatives, were there no suffering connected with sickness. A man could then inspect his ledger, prosecute his studies, transact his business, with as much facility almost as he could in health, and in the occupation of the moment forget his danger and his duty. But happily for mankind this is not usually the case. The suffering of a sick bed effectually banishes all such employment, and unless the conscience be thoroughly killed, the mind, how-

ever reluctantly, is compelled to have the alarming conviction of its mortality and responsibility forced upon its attention.

But a second moral use of pain consists in its lowering the tone of the spirit, and so preparing it for a more suitable consideration of these important topics, than it would be likely to give to them in health. Under ordinary circumstances the mind is puffed up with pride, and with a feeling of its own independence. The mysterious connexion subsisting between the physical organization of our bodies and the intellectual principle within us, favours this spirit; and we reject with haughty disdain, when in the vigour of health and youth, the solemn considerations of our weakness and dependence. But let the scene be changed. Let a few short hours of sickness pass over us; let the weakness of an emaciated frame, of protracted sleeplessness, of intense agony, be felt, how soon is the lofty spirit humbled; how soon the proud boaster silenced. When the visitation of sickness is sanctified, much of the benefit, under the influence of Divine grace, is to be traced to its effects in thus altering the temper and the sentiments of the party.

But one of the most beautiful effects of pain remains to be mentioned. We have already in a manner alluded to it when speaking of the uses of disease in general; but it is the pain of disease that is chiefly instrumental in bring-

ing it about. The idea referred to is its tendency to develope kind feelings between man and man; to excite a friendly sympathy on the part of others towards the person immediately afflicted. No sooner is an individual attacked with illness, than a corresponding degree of interest is excited on his behalf. Expressions of solicitude for his welfare are put forward, offers of assistance are made, old friendships are revived, new ones are developed: all this, it is to be remembered, is essentially connected with the suffering of sickness. Were it not for this, there would be no occasion for this sympathy, and there would be no manifestation of it. Every man would be left to battle with the attacks of illness as he could, and no friendly voice would be raised to cheer him in his hours of solitary gloom; no tender hand put forth in offices of kindness; no midnight watcher volunteer to nursetend his bedside. In contemplating the uses of pain, that a gracious God has thus attached to our constitution as a necessary part of our existence, is there any one that calls for louder admiration than this, which unites the whole family of Adam into one universal brotherhood; which gives exercise to the noblest charities of our nature, and which is the means of securing to us, at the very moment when we most see their value, the tenderest assistance of the best and kindest of our race.

CHAPTER VI.

ON THE MODIFICATIONS OF PAIN, AS EVIDENCE OF DESIGN.

It is scarcely necessary to remark, as the circumstance must be familiar to every one, that the pain of disease does not preserve in all cases the same uniform character and intensity; on the contrary, it preserves the greatest possible variety in these respects, even under circumstances which at first sight would lead us to expect a tolerably exact resemblance. It becomes therefore a question for consideration, how far these differences, when closely examined, serve to confirm the position already laid down as to its general utility.

These differences depend partly upon the nature of the structure attacked, partly upon the character of the morbid action present at the time, and partly upon certain peculiarities connected with the constitution of the individual: and the more closely they are examined, the more clearly will it appear that they do not occur at random, but are the result of a wise arrangement in every instance, and that the very things that at first sight appear to form exceptions to the rule, only tend, on further inquiry, to add force to the argument and to confirm its accuracy.

I shall commence the observations I intend to bring forward on this subject, by analyzing a few of the more striking varieties of pain that we meet with, selecting the examples from familiar instances, and then proceed to consider the objections to the theory that are likely to be raised.

And first, as to the *severity* of the pain. This, as every one knows, varies from the most trifling alteration in the patient's sensations, scarcely deserving the name, to the most acute agony that the human frame is capable of enduring. Now, it may be stated as a general rule in the history of disease, that the severity in most cases bears a direct ratio to the danger of the affection. When an organ, essential to life, is attacked, or when the inflammatory action rises high, the whole constitution sympathizes with the mischief, and the pain becomes proportionally great. But when, on the other hand, a part of less importance happens to be engaged, or the inflammation assumes a lower type, there is not the same necessity for immediate alarm, and the pain is of a less marked character.

In illustration of this I may take the case of the serous membranes—a set of textures which perform a most important part in the animal economy. They are attached to all the joints, and line the great cavities of the chest, cranium, and abdomen. The purpose they subserve is, to faci-

litate the movement of one part upon another by destroying friction. For this end they are admirably adapted, being smooth upon their free surface, and being perpetually moistened by a vapoury dew. When in health they are totally destitute of sensation; and the wisdom of their being so is conspicuous in the fact, that were they sensitive, every movement of our bodies would be productive of inconvenience, if not of pain. But whenever they become diseased, their sensibility is exalted to the highest possible degree.

One of the largest and most important of these is called the peritonœum: it covers the intestines. While it admits of the freest movements taking place in the long folds of the alimentary canal, it effectually ties them down in their proper positions, and prevents their becoming entangled with each other. And although a perpetual change of position is taking place between the several parts, the individual, so long as the membrane retains its healthy condition, is unconscious of the movement, or even of its existence. Let it become inflamed, however, and the whole state of things becomes painfully altered. The patient can no longer turn himself in bed, nor stand upright; he cannot breathe with ease, nor bear the slightest touch upon the abdomen. He lies immovable on his back, his knees drawn up, and his body bent forward, to relax as much as possible the muscular

tension; while such is the tenderness of the inflamed surface, that even the weight of an ordinary blanket thrown over the bed, becomes an intolerable burden, from the trifling pressure it occasions. All this amount of suffering bears an evident proportion to the necessity of the occasion, warning the patient of his danger, and stimulating him to adopt the speediest and most energetic measures for his recovery; because there is an obvious necessity for the preservation of this membrane in its integrity for the future purposes of digestion; and still more, because the form of inflammatory action, to which it gives rise, is one of the most rapid and most fatal to which the human frame is liable.

Let us take another instance from the case of inflammation of the heart, or pericarditis, as it is technically called. I need not say that such an affection as this is fraught with the highest danger. The necessity that exists for this organ maintaining uninterruptedly its office, as the great moving power of the circulation—the force-pump of the blood, as it may be considered—and the facility with which its delicate mechanism may be permanently injured, concur to render it a matter of the greatest moment, that the earliest possible intimation should be given of its being attacked by disease. This is provided for sufficiently by there being added to the pain, that is

common to the ordinary attacks of inflammation, a peculiar and indescribable kind of distress—an internal and unaccountable feeling of alarm and anxiety. Patients thus affected, do not in general reveal their suffering by clamorous outcries and violent gesticulations. Such efforts would only increase the evil by hurrying the circulation. Their manner, on the contrary, is calm, their tone subdued, but their anguish is depicted in legible characters on the countenance; so much so, that an experienced physician will sometimes, from this peculiar expression, be enabled to guess with tolerable accuracy the nature of the complaint. Is there not wisdom then displayed in the intensity of that pain, that points in such a manner to the dangerous condition of so vital an organ?

We have another instance of violent pain in the case of mortification, the earlier stages of which are attended with extreme suffering. It is seldom that ordinary inflammation exhibits any tendency to assume this destructive character. It is, hence, attended with pain of a comparatively mild kind. But whenever, from the severity of the injury, or some peculiar condition of the constitution, such an untoward result is about taking place, we have a corresponding increase in the violence of the patient's sufferings. And will it be asserted by any one worthy of the least attention, that the circumstances do not justify the change? Will it

not, on the contrary, be regarded that nature, by this symptom acting the part of a faithful sentinel, is ever ready to give notice of the approach of danger; but, true to her trust, instinctively sounds the loudest alarm when she sees the danger to be greatest?

Let us now turn to examples of an opposite kind, to cases where the pain is trifling, and we shall see that in them the danger, if it exists at all, is considerably less in amount or urgency. Take, for instance, the form of inflammation that prevails in persons of a scrofulous constitution. This is proverbial for the small amount of inconvenience it occasions to the patient. He suffers, frequently, no pain; he is able to pursue his ordinary avocations, and his usual enjoyments are not interfered with. The parts this kind of inflammation attacks are principally the lymphatic glands of the neck, armpits, &c., organs which play a very subordinate part in the economy of life. The character of the morbid action itself is remarkably chronic; it undergoes its changes slowly; often remains stationary for years, and seldom tends to generate the ordinary products of inflammatory action. In all this there is no apparent necessity for sounding an alarm in the patient's ear, by attaching to the ailment pain of an acute kind. The life of the individual is not at stake; all the animal functions are performed with tolerable exactness, and the

only unpleasantness the patient often is exposed to, besides the mechanical inconvenience of the bulk of the tumor, is the mental sense of deformity to his personal appearance.

A second class of diseases, attended with very little suffering, are those latent affections to which allusion was made in the last chapter. These, as I have already stated, are often of the greatest importance, threatening the life of the individual, if not immediately, yet at no distant period. It will naturally be thought, that if pain is necessary to give warning of danger, its services are certainly requisite here. And so undoubtedly it is, but not altogether to the extent that may be supposed. There are peculiarities connected with the history of latent diseases that render the absence of this symptom, or its less pronounced severity, of less importance to them than it would otherwise be. Like the scrofulous affections just mentioned, they appear to originate in an unusual condition of the constitution; but they differ from them in the nature of the morbid action, as well as in the seat which it occupies. On the other hand, they differ from the ordinary attacks of common inflammation in the slower rate of their progress, and in the absence of constitutional sympathy. The morbid action present in both is the same; the tissues engaged the same; the tendency the same; the danger to life the same. But the low form that

the inflammation assumes causes it to proceed with less rapidity in its course, and accounts, in a great measure, for the obscurity of the symptoms; changes that are gradually brought about being productive of little inconvenience, because the system is enabled to accommodate itself to the altered circumstances in which it is placed. This slowness, then, though it does not diminish the ultimate danger, allows of sufficient time for treatment to be adopted before permanent disorganization has taken place, and supersedes, in some measure, the necessity for a louder warning at the commencement.

Another class of affections characterized by the little amount of suffering that attends them, consists of the various forms of insanity. This, though a disease of the highest importance to the well-being of the individual, and though its effects are most deplorable upon the understanding, is not, in general, attended by much personal suffering, either of mind or body. On the contrary, the large majority of the inmates of a lunatic asylum are not only as happy in themselves as those who enjoy the perfect use of their understanding, but usually a great deal more so. The propriety of this is obvious. The complaint in question does not, by itself, materially tend to destroy life, or to shorten the natural limit of its duration. It exhausts itself principally upon the powers of the

mind, rendering the patient incapable of discharging the relative duties of society. The very element of such a condition may be said to consist in an unconsciousness of his own state. To what purpose then, it may be asked, should there be added to it a symptom whose office, in the very nature of things, is to give notice, not to the friends and neighbors of the individual attacked, but to himself? The addition of local pain to the loss of reason would obviously answer no useful purpose. It would not make the patient one whit more conscious of his state than he is without it, or lead him more readily to resort to the necessary treatment for his recovery; and, as far as his friends are concerned, how could they be apprised of the existence of such a symptom, except from his own statements, and if they were, what assistance would it afford them in estimating his mental condition, beyond what they already possess in his conversation and conduct.

If the views advocated in this paper be correct, it is scarcely necessary to remark, that the great use for which pain is appointed in disease is, to direct attention to the malady with a view to its proper treatment, and hence, that its presence is most important at the commencement of the attack. When once this object has been attained; when the patient has been sufficiently apprised of his condition, there is the less necessity for its

continuance afterwards. This accounts satisfactorily for a feature in the intensity of the symptom, that must be universally known; that is, that it is most severe at first, and becomes gradually milder. This fact may be accounted for in various ways; but the object intended to be gained by its occurrence is evident enough. It is no part of the divine purpose to subject His creatures to unnecessary suffering. Benevolence forbids that it should be protracted one moment longer, or carried one particle farther, than was absolutely requisite for the accomplishment of His wise intentions. Hence we find various provisions instituted to mitigate the violence of pain in the progress of disease. One of these consists in the production of certain changes in the structures—the consequence of inflammatory action—that interfere with the sensibility of the part. For example, when the serous membranes are attacked, a copious amount of fluid is poured into their cavities, which separates their free surfaces from each other, and thus prevents their highly sensitive portions from irritating one another by mutual friction. Some of the most striking instances of this merciful provision we find to be connected with the approach of death; a remarkable remission in the symptoms usually occurring some hours before the close of life. Thus, in the case of gangrene, to which allusion has already

been made, there is commonly a complete cessation of pain in the part, and the patient expresses himself as greatly relieved and perfectly comfortable, so much so, that the sanguine relatives anticipate, from this circumstance, a speedy restoration to health. But the experienced physician regards the change as an evidence of an opposite result having taken place. The textures having become dead, having lost all power of sensation, are incapable any longer of transmitting to the sensorium those impressions upon which the previous agony of the patient depended. In severe fevers, as well as in other mortal maladies, the same thing constantly occurs. Changes are produced in the brain which cause, more or less complete insensibility to surrounding impressions, which, though distressing to the immediate relatives to witness, is full of mercy to the patients themselves. Can any arrangement be imagined more full of tenderness than this? What useful purpose would it serve for the dying man to be racked with pain at the moment of dissolution? to feel the loosening of the silver cord, and the breaking of the golden bowl, when the rushing tide that filled it has at length ceased to flow? Whatever services pain could previously have rendered, it is no longer capable of being of any use.

Another modification of pain that deserves con-

sideration is, the intermitting character it occasionally presents. Instead of being permanent during the entire period of the malady, it subsides for a time, to recur again with the same violence as before, though the conditions upon which it appears to depend continue all through. The most remarkable examples of this occur in cases of tic-douloureux, and other neuralgic affections. Some of these are caused by the pressure of a tumor on the filaments of a nerve; and, as the cause is permanent, it would naturally be expected that whatever pain it might occasion would be permanent also. But this is not the case. With a view to mitigate such sufferings, which are often of agonizing intensity, nature has provided that there should be intervals of rest, during which the afflicted patient might have ease. Were it not for this, life itself would be insupportable. The nature of the nervous fluid serves, in some measure, to explain the phenomena, consisting, as it appears to do, of a series of interrupted impulses, and not of a continuous stream, and requiring certain intervals of repose to prevent its energy being exhausted, and to enable it to fulfil its function.

But whether this explanation be correct or not is a matter of little consequence; what we are mainly concerned with is the fact itself, of which there can be no question, and in which there is

conspicuous the same tender regard for the children of affliction that we have been able to trace in other departments of nature.

In some spasmodyc diseases, epilepsy for example, though the contortions are frightful to look at, we are probably not warranted in concluding that the patient suffers much, or, indeed, any pain, at least at the time; because his sensibility is destroyed by the circumstances of the fit. But this is not the case in others. In Asiatic cholera consciousness is preserved in all its integrity, and the patient suffers frightfully from the cramps; but here we have developed those occasional intermissions of which we have been speaking, and which minister a certain amount of ease to the patient, though it must be confessed it is neither very great nor very permanent.

The last modification I shall allude to is the circumstance of the pain occasionally undergoing a change in its character, according to the stage of the complaint. In other words, we have a double pain in certain affections, one kind corresponding to the earlier stage, and another to the later; so that we are able, by questioning the patient upon this point, to ascertain, with tolerable exactness, how far the morbid process has advanced. For example, when an abscess is forming in any part of the body, the pain is at first of an acute throbbing kind, which changes to a dull aching

sensation at a later period, when the contents of the abscess are becoming purulent. Now, although this circumstance, by itself, would not warrant a surgeon in concluding that it is time to make an incision into the part; yet it is obvious that a knowledge of the peculiarity must afford him material help, in conjunction with other symptoms, in arriving at a satisfactory solution of this important practical question. Similarly, we find the pain of parturition to possess a twofold character, corresponding to the stages of that process; so that it is perfectly possible, from this circumstance alone, (and what is still more remarkable, from the change in the character of the woman's cries, as expressive of the character of the pain,) to determine the progress that a case of labour has made to its ultimate completion. In this instance again there is plainly perceptible a useful purpose to be served by the modification of the symptom.

I come now to consider the objections that may be urged against the views here advocated, and in doing so, I shall take notice of all that occur to me, as at all likely to be started, and state them as fully and as fairly as I can. The first then is this: that we frequently find the amount of pain, differing widely where the disease is the same, and when it is impossible, consistently with the opinion here advocated, to account for the

difference. Thus, one patient labouring under consumption will suffer very little, while another will suffer a great deal, though the circumstances of each may appear as nearly as possible similar. If the pain depended upon the nature of the morbid action, or were in any measure intended to act as a salutary guard upon the danger of the patient, it ought to be the same in both cases. In reply to this, I think it may be very fairly questioned, whether the assumption is really borne out by facts: whether two cases, really similar in their pathological conditions, are ever attended with different degrees of pain. But even if this were to be admitted, it does not follow that there is the least force in the objection. It is not said that the sole object for which pain exists is, to give warning of the danger: there are other purposes it is intended to serve, as has already been shown, and the necessity for these being accomplished, may exist in one case and not in another. Thus, there may be occasion for the development of the moral ends of pain, in cases where there is not the same necessity for the development of the physical. Still further, if there be any truth in the observations made in a former chapter, relative to the variety in the Divine dealings, towards his intelligent creatures, and in the purpose for which that variety is intended—namely, to individualize them as much as possible, and to impress

them with the idea of a special Providence presiding over and directing every thing that happens to them, it must be obvious, that such diversity, if it exists, is but a part of a great plan, intended for the wisest and the best of purposes. The objection, if it do not rest on a baseless conjecture, is capable of being perfectly reconciled with the idea of intelligent contrivance.

A second objection may be stated thus:—Many severe and even fatal diseases are unattended by that amount of pain, that is commensurate with their danger. Some of these cases have been already considered when speaking on the subject of latent diseases, and reasons were adduced to account for the absence of the symptom. In other cases where there is great and urgent danger, it will, I believe, be generally found that there are other indications of the illness, sufficiently distinct to enable the parties to form an opinion upon the subject, and to direct the treatment. Take the instance of apoplexy. A man, apparently in perfect health, suddenly falls down in a fit, bereft of sense and motion, from which it is impossible to rouse him. Here, though the life of the patient is threatened, and that in the most sudden and alarming manner, yet he does not generally suffer any considerable amount of pain. Yet, what is the loss in consequence? Is it necessary to point out to the bystanders the grave

nature of the attack? Would a consciousness of pain on the part of the patient, who lies sprawling helplessly on the ground, give a greater clearness to the warning, than is conveyed by the circumstance and suddenness of the seizure? Is it not a more merciful provision to draw the curtain of insensibility over a condition, which, were the patient at all conscious of its nature, would be most distressing to his feelings. The absence of pain is accounted for by the absence of consciousness, but the place of the former is in these instances sufficiently supplied by other symptoms that answer the same end.

The last objection I shall notice is one perplexing enough to answer satisfactorily. It is this: the existence of severe and long-continued pain, where no vital organ is concerned, where the life is not placed in immediate danger, and where the malady is incurable. Such, for example, are those cases of neuralgia, to which allusion has already been made; and such also are the various forms of cancer. It is not easy to see what useful purpose—at least of a physical kind—such intense suffering can answer. But are we warranted from this circumstance in concluding that it really does not answer any. Even if it were impossible to discover any satisfactory reason for this appointment, analogy would lead us to conclude, from what we are able to see of

the Divine works in other parts of this arrangement, that there are wise and sufficient reasons for its occurrence, although we are not able as yet to discover them. It is fairly to be expected, that in investigating the works of the Infinite Creator, we shall find many things beyond the reach of our comprehension. But are we on that account justified in questioning their correctness. Let us argue from what is known to what is unknown, and let us infer from the clear and palpable proofs of wisdom, benevolence, and skill that surround our path, that if we were put in full possession of all the facts of the case, we would clearly discover that the present phenomenon forms no exception to the universal character of His administration.

But this answer, though it may silence the objector, is not likely to satisfy him. Happily for us, we are not left to such dark conjectures. In the moral uses of the appointment we have abundant purposes to be answered in every way worthy of the great Governor of the universe. Intimately acquainted, as He is, with the peculiar constitution of every individual mind, He sees in those cases where He is pleased to send the affliction, some great and imperative necessity for a process, that appears to our limited comprehension so painful and so mysterious. Just as in reducing ores, taken from the earth: the miner finds it

necessary to resort to different processes to separate the metals from the cruder particles with which they are associated in nature, and to augment the temperature of the furnace in certain cases that are peculiarly refractory; so we may be sure that He who sits as a refiner and purifier of silver, uses the crucible of trial with equal discrimination, and adapts the character of the affliction, and the intensity of the ordeal, and the period of its duration, with unerring skill, to the special circumstances of each individual case.

CHAPTER VII.

OF SOME OTHER SYMPTOMS OF DISEASE AS EXHIBITING
DESIGN.

We proceed to direct attention in the present chapter to some other prominent symptoms of disease that, like golden threads shining through a cloth of dark texture, enable us to discover the pattern worked upon the surface.

In doing this we shall confine ourselves to a few examples out of many, and shall select those only which are familiar to most ordinary readers, and which are so obvious in their character as not to be open to any reasonable objection.

The first we shall allude to is the occurrence of nausea at the commencement of ordinary fever. This symptom is invariably present, if not at the very beginning of the disorder, at least at an early period after its development. It consists, not simply in a mere loss of appetite, but in a positive distaste to all kinds of food, so much so, that the very sight of any solid aliment, is sufficient to create disgust in the mind of the patient. It is a remarkable circumstance that this change in the ordinary sensations of the individual occurs at a time when the appetite for drinks is not only

continued, but actually increased. It may at first sight be thought a matter of surprise that these two sensations, so closely connected, and so nearly akin in their essential office, should be so differently affected by the same morbid action. Yet there are wise and salutary reasons for the difference. For while the copious use of diluting drinks is unattended with inconvenience, and is even productive of advantage, the ingestion of solid food, on the contrary, would be most pernicious, disturbing the comfort of the patient, and prolonging the duration of the attack. To understand this clearly it is necessary to call attention to the difference that exists in the mode by which the liquid and solid elements of nutrition are taken up into the system. The former, from the simplicity of their constitution, require to undergo no preparatory process before they are absorbed into the vessels provided for their reception: almost immediately after being swallowed they are found circulating in the general mass of the blood. But the latter, on the contrary, owing to the complexity of their composition, and their insoluble form, require to undergo changes in their structure before they are capable of being taken up into the economy. Hence they require for this purpose, not only a certain interval of time, but a certain expenditure of vital force. These changes, which constitute the principal

part of what is commonly called digestion, are not a mere solution of the solid portions of the food in the fluids of the system, but a peculiar modification of the nature of the substance brought about by the action of the gastric juice, aided by the energetic contraction of the coats of the stomach. Now, when the patient is oppressed by an attack of fever, this process is entirely suspended, both because the secretion of the gastric juice, like all the other secretions of the body at such a time, is arrested, and still more, because the muscular fibres of the stomach partake of the debility which is apparent everywhere else, so that they are incapable of performing their proper duty. It is manifest that when matters are in this state, the use of food would be attended with decided disadvantage; as it could undergo none of the changes necessary to assimilation, it would necessarily lie as a heavy mass within the stomach, inconvenient from its weight and bulk, and still more so from the fermentation that its peculiar position would be sure in a short time to induce.

But to understand fully the value of this provision, it is necessary to extend our consideration a little further. In the brute creation the quantity of nutriment taken at a time by any animal is regulated altogether by the appetite of the moment. Instinct, guided by the senses, is the sole and sufficient guide to direct him when to

eat and when to desist. He knows nothing of future wants, and he can form no conjecture as to the circumstances in which he may possibly be placed, so as to make provisions for contingencies that may subsequently arise. If he can gratify the cravings of his present sensations he is fully satisfied, and makes no attempt to guard against a future necessity. But the case is different with man. His intelligence raises him above the narrow limits of the present hour, and imposes on him the necessity of making suitable provision for the approaching future. This feeling operates in respect to the taking of food as well as to every thing else. Hence the promptings of sense are always to a certain degree subordinated to the higher dictates of reason. This subjection of the animal appetite to the views of an enlightened expediency evidently has its advantages, and if it could be exercised on all occasions with due discretion, would be productive of much benefit. But unfortunately this is not always the case. In practice we find it more generally exhibited in the habit of continuing to eat after the appetite has been satisfied, than in restraining self-indulgence before that point has been reached. The consequence is, that habitual repletion is an evil constantly met with, and productive of the most serious injury to those who are guilty of it. But though pernicious under all circumstances, it

becomes infinitely more so if practised when the ordinary powers of digestion are suspended, as in fever. At such a time the mere absence of appetite would be no sufficient safeguard for the preservation of the patient. It requires a stronger and more effectual restraint upon a habit that is so generally practised, and such a restraint is effectually provided in the symptom under consideration. Can we doubt for a moment that the existence of the symptom is really the result of design? or that the intention of its appointment is as beneficent as it is wise.

Under this head we may conveniently consider a class of symptoms varying in different diseases according to the nature of the disorder, but agreeing in this, that they occur at the commencement of the attack, and serve the useful purpose of suggesting to the observant medical attendant the proper mode of treatment to be adopted. Thus, vomiting is not an unusual symptom at the commencement of an attack of inflammation of the lungs; and a plan of treatment which, when adopted sufficiently early, is found to possess peculiar advantage in that complaint, consists in the administration of medicines which have an emetic property. Similarly many cases of diarrhoea require for their successful management the employment of mild aperients. In these cases nature appears to point out spontaneously

the proper course to be adopted. It may be thought that the admission of the existence of such a principle necessarily countenances the doctrine recently propounded by Hahneman and his disciples, who are accustomed to administer in every form of disease the medicines which have a natural tendency to produce a similar action. But a little reflection will suffice to show that the two propositions are widely different. What is here contended for is, that in the *group* of symptoms which show themselves at the commencement of an attack of illness it is sometimes possible to select some one in particular which shall enable us to determine on a plan of treatment likely to be beneficial. That symptom may, as in the instances just referred to, lead us to administer medicines which possess the property of producing similar effects, or it may have nothing to do with it. Thus, the contracted pupil of a person suffering under inflammation of the eye, does not lead us to administer medicines which have the property of stimulating the iris to contract, but simply to act upon the suggestion that nature is silently but most significantly making, to exclude the light from the too sensitive nerve of vision. Hahneman's theory, on the contrary, is, that when there exists a morbid action of a particular kind, its true remedy will be found in the use of a medicine capable of producing a similar action in a person in health.

Hence, he prescribes nauseating drugs to tranquillize an irritable stomach, and opium to remove an attack of apoplexy. To his views, as thus expressed, many objections may be stated. They seem to depend on a misconception of what may be considered a medical axiom, "*similia similibus curantur*," the true interpretation of which is, that whenever two cases resemble each other in their nature and symptoms, the remedies which have been proved to be useful in one of them will be suitable in the other; but which he understands to mean, that remedies which are similar in their mode of action to the diseases for which they are prescribed, are more appropriate than those which are dissimilar. But not to dwell on this subject farther, it is sufficient to observe, that, even in the sense here employed, it is not possible to discover the suggestive symptoms of which we speak in every case; many maladies being met with, which afford us no clue in their external appearances to a rational and intelligible mode of treatment. Shall we then deny that any useful purpose is intended by the symptoms under consideration? Shall we infer that their occurrence in any particular malady is purely the result of accident, because we do not discover them in every form of illness? or shall we rather admit, that their existence in any particular instance is the result of an intelligent forethought, seeing

that their utility is so great, and that their absence, when they are wanting, is compensated for, as experience amply proves, in other ways equally useful.

Fainting is an event of every-day occurrence. It is not, as most persons must be aware, of any material danger to the individual, though its appearances are sufficiently alarming to the spectators; yet this freedom from danger is not due so much to the nature of the attack as to the circumstance, that it necessarily leads to a change in the posture of the patient, which removes for the time the condition upon which the fit depended. In this change of posture then we discover another provision of a salutary kind, such as we have been considering. An attack of fainting may occur under a variety of circumstances. It may originate in loss of blood, as from a wound; or it may arise from a deteriorated condition of that fluid, as from a want of proper nourishment; or it may depend upon irregular action of the nervous system, as in the commencement of fever. In all cases, however, whatever may be the remote cause of the production, there is present a certain change in the vascular condition of the brain. This important organ is enclosed, as every one knows, in the cranium, a thick, bony case, which not only protects it from injury, but also equalizes the degree of com-

pression to which it is continually subject. Any considerable augmentation or diminution in this pressure would be attended with pernicious consequences to the delicate structure of which it is composed. Hence the physical conditions in which it is placed are admirably adapted to prevent any material alteration in this respect. Some modern writers, it is true—among whom may be mentioned the late excellent Doctor Abercrombie—have doubted the correctness of this view, and have been led to deny the possibility of altering the amount of vascular compression of the brain at all, maintaining that the symptoms which are usually attributed to this source are really due to a variation in the relative quantities of the arterial and venous currents. But more recent observations, and especially a series of experiments, instituted for the purpose of determining the question, and admirably conducted by Doctor Burrowes, leave no reasonable room for doubt upon the mind, that within certain limits, narrow indeed, but still distinct, the quantity of fluid circulating within the skull is capable of being increased and diminished. Now, this being admitted, it is to be observed, that an attack of fainting comes on when the pressure is diminished by a reduction in the quantity of blood circulating in the skull. It is thus that hemorrhage induces its occurrence. As soon,

however, as this state has actually been brought about, an immediate relaxation of the whole muscular system is the consequence: the patient loses his consciousness, the nervous energy is destroyed, and the patient falls down insensible to the ground. In this very result all his safety consists. So long as the patient preserves the erect posture, it must be obvious that the force of gravity acting upon the columns of blood that extend upwards to the head, must have the effect of diminishing the quantity within the skull, and so perpetuate the evil under which the individual is suffering; and if this state were to be protracted for a few moments the consequences would be extremely dangerous, or even fatal. But as soon as the sick man falls down, the change of posture at once removes the force of gravity, and allows the fluids to return to that state of distribution which is necessary for the maintenance of the healthy functions of the brain.

Some forms of the affection depend really upon the action of the heart, though the brain is likewise in a subordinate way concerned in their production. In these cases the quantity of blood circulating in the system may be sufficient in amount, but from its altered qualities it does not stimulate the heart adequately, so as to enable it to propel its contents with the force necessary to supply the brain as it ought to do. This is the

form of the complaint that is so commonly met with in young females. The heart is one of the most remarkable organs in the body: it possesses to a certain extent an independent power of action; so much so, that if cut out of an animal immediately after being killed, it would continue for a considerable time to contract in the same manner it did previously, even though empty of blood, and lying on the table. But these muscular contractions gradually become weaker, not only because of the separation of the organ from the rest of the living structure, but still more so from the want of their natural stimulus—the blood. It is the current of this fluid distending its cavities at regular intervals during life that principally determines its movements. When it is well filled with a large quantity of rich blood, its contractions are strong and energetic. When, on the contrary, it is but partially filled, or when the blood is of inferior quality, its contractions are feeble and inefficient. Under the latter circumstances it is less able to propel the current upwards to the head against the force of gravity, and fainting is not an uncommon result. But let the patient be laid down, and the difficulty is removed: the heart, relieved of the physical disadvantages under which it had been placed, is enabled to transmit the required quantity to the sensorium with due regularity, and the equilibrium

of the circulation is immediately restored. It is scarcely necessary to observe, that cases of this kind are frequently mismanaged by persons ignorant of the proper treatment. Disliking to see any one stretched upon the floor, particularly if it be a delicate and respectable female, they begin at once to raise her up into a sitting attitude, to the manifest disturbance of that process that nature, in her own quiet way, is taking for her recovery. Is it right, considering the useful consequences that result from the occurrence, to look upon the fall of the patient in these cases as an accidental circumstance, and not rather to regard it as a wise appointment on the part of the Author of sickness, designed for the best and most beneficent purposes ?

Sudden hemorrhage, whether it be the result of accident or disease, is often attended with the most alarming and even fatal consequences. Unless speedily restrained in some way, it is needless to observe, that the loss of so important a fluid would be followed by immediate death. But the exigency of the moment is provided with a remedy suited to the occasion. And in considering the provision it is difficult to determine whether we ought most to admire the beauty of the contrivance, or the simplicity of the means employed to effect it. To understand it perfectly we must remark, that the great func-

tion of the circulation is carried on in a series of tubes of varying size, and of a strength proportioned to their respective diameters. These are not unyielding pipes, such as we are accustomed to see used for conveying water in our streets, but consist of elastic materials similar to the Indian-rubber tubing, which has lately been brought into such general use. The consequence is, that they accommodate themselves easily to the varying quantity of fluid they happen to convey, and so are less liable to rupture than they would otherwise be. In this way the very loss of blood, when it occurs, is of itself a check upon its continuance, because, as the tube itself is elastic, the contraction of its diameter, which is the consequence of its diminished contents, closes the aperture at which the leakage occurs until a fresh formation of blood has taken place to such an amount as to distend the vessel to its original size; but as this requires an interval of time directly proportioned to the degree of the hemorrhage, a sufficient period necessarily elapses to allow of the repair of the damage, so as to prevent a recurrence of the accident. If to this is added the fact of its inducing an attack of syncope, which may be considered a distinct hint as to the propriety of maintaining the horizontal position, we shall see that the arrangements which are thus provided by nature for our

recovery, are admirable in the extreme. Any excitement of the circulation at such a time would be attended with the greatest risk. The recumbent posture, by relieving the heart of the principal part of its duty, necessarily tends to tranquillize its motions, while the erect attitude has an effect exactly the reverse. It is true that, no matter what posture the patient happens to assume, the heart's action, after great loss of blood, appears to exhibit unusual violence, the pulse under the finger becoming not only frequent but thrilling; but this characteristic, which is so constantly observed, as to have got the special name of a "hemorrhagic pulse," is really deceptive, and indicates weakness rather than force. It depends upon the necessity that is imposed upon the organ to compensate, in some measure, for its loss of power, by increased efforts of propulsion; and it is most effectually relieved by making the patient observe the simple expedient of lying in bed during its continuance. In these two things—the development of syncope, and the contraction of the coats of the elastic tubes—we have a complete provision to guard against the danger of hemorrhage—a provision that comes into play exactly at the moment when the necessity for its protection arises. The greater the loss of blood, the more fully is it exhibited. Can it be supposed that an

arrangement so salutary and so beautiful, is any thing else but the result of an intelligent and kind contrivance?

The last instance to which we shall direct attention at this time, is the occurrence of straining of the stomach, or actual vomiting, in what is commonly called a fit of a gall-stone. This, which consists in the passage of a biliary calculus through a narrow duct, though a circumstance of comparative rarity, is almost always a matter of considerable annoyance to the patient. The smallness of the channel through which it has to pass, and the spasm of the textures to which it gives rise, are sufficient to explain the suffering it occasions. The violence of the pain which is thus induced, and which is often so great as to amount to actual agony, is frequently relieved in a most sudden and surprising manner by the mere effort of straining, whether brought on by artificial interference, or the natural result of the condition of the parts. To understand the mode in which this symptom acts, it is necessary to be acquainted, in some measure, with the structure or functions of this part of the digestive apparatus. The bile is one of the most elaborated juices of the body, and as it cannot be secreted with sufficient rapidity to admit of its being supplied in large quantity at the moment it is required, a provision exists for its being stored,

according as it is prepared, in a small bag on the under surface of the liver, where it is retained until the period when the process of digestion has commenced, at which time so much of it is poured out as may be necessary for the wants of the moment. This store-bag is about the size and shape of an ordinary pear, with a long and narrow tube leading into the lower portion of the stomach, through which the fluid is conveyed as often as may be requisite. The presence of food in that part of the stomach where the aperture of the duct is situated, acts as a stimulus to the contractile coats of the gall-bladder to push forward their contents; so that the passage of the bile takes place principally, if not exclusively, at those periods when the stomach is distended with food. The formation of calculi, which frequently consist merely of inspissated bile, though they do occasionally contain other elements, is accounted for by the fact of the bile having often to lie for a considerable period in the gall-bladder, especially in persons who fast for an unusually long period, where the watery portion becomes absorbed, and the more solid matters become hardened. These calculi, whatever the constituents they contain, are productive of no inconvenience, so long as they remain quietly in the large extremity of the bag, as they often do for years together; but whenever they are pushed

forward towards the duct, they become the immediate cause of exquisite suffering. This is especially apt to occur during the taking of a large meal, or shortly after, because the exigencies of the occasion call for an unusually large supply of bile, and the contractions of the vessel in which it is contained are proportionally great. The difficulty of propelling a solid body through a duct of such narrow dimensions, is still further increased by the existence of structural impediments, designed to prevent the regurgitation of the fluids of the stomach up into the gall-bladder. These impediments are two-fold—one a spiral valve, consisting of a layer of mucous membrane projecting into the interior, and coiled regularly round the inside; the other depends upon the mode in which the duct enters into the stomach: this is not, as might be supposed, a short direct passage, but a long and continuous course, penetrating between the muscular fibres of the coats of the stomach, the contraction of which serves to keep the aperture closed against the entrance of foreign substances, though it permits the free escape of the bile. But these circumstances, sufficient as we may think them to prevent the passage of a gall-stone through the duct, are not the only impediments it has to meet in getting into the stomach, nor even, it may be said, the principal ones; neither are they

the source of the patient's suffering. Such is the power of dilatation that hollow organs possess, that a little time is all that would be requisite to enable them to expand sufficiently to allow of calculi of considerable dimensions passing through them. No: the principal difficulty, as well as the principal source of suffering, consists in the spasmodic contraction of the muscular fibres of which the duct is composed, and which are here, as in all other hollow viscera, disposed in a circular manner, so that when they act they restrict still further the space through which the body has to pass, and hold it as in a vice, so that it can neither recede nor advance. But just at this crisis, owing to a particular arrangement, which it is not necessary further to allude to, the patient is commonly seized with an involuntary effort of vomiting or straining, which is frequently the means of removing the fit entirely, and restoring the patient, for a time at least, to perfect ease. This depends upon that universal relaxation of the muscular system, that everybody knows, who has ever experienced seasickness, invariably attends the forcible emptying of the contents of the stomach; and that, extending to the minute fibres of the gall-duct, unlocks the grasp in which the calculus is held, and allows it to slip back into its former position at the large end of the gall-bladder.

It is scarcely necessary to multiply examples of this class, all of which, when carefully examined, would only tend to establish the same great and important truth: that, even in the midst of the most severe and destructive processes, provisions can be detected to mitigate their severity, which can have been implanted there only by One intelligent enough to appreciate their danger, and to discover the most suitable methods of averting it, and good enough to furnish, in the simplest and surest manner, what His wisdom had pronounced to be necessary.

CHAPTER VIII.

OF PROCESSES OF A PRESERVATIVE CHARACTER
OCCURRING IN DISEASE.

The examples which have been given in the last chapter, are all the direct result of the ordinary operations of the vital forces, and not of any new or unusual mode of action, induced in them by disease: in other words, they are instances of physiological, rather than of pathological action; and in this respect may seem open to the objection, that they do not contain any distinct evidence of a salutary interference for the purpose of restoring the system to a healthy state, such as is necessary to establish the idea of design. But this objection is not really entitled to the slightest attention. It is, as has been already remarked, the glory of God to exhibit in His works the greatest simplicity of means, with the greatest complexity of results; in this, as in every thing else, drawing a strong contrast between the ease and beauty of His arrangements, and the clumsy mechanism of human contrivance. He delights to make one cause accomplish many objects, and He

never stoops to employ a second unless He sees it to be absolutely necessary. That the arrangements in question are the result of a deliberate intention on the part of God, and not a mere casual coincidence, occurring without motive, is evident, not merely from their exhibiting the characters of utility and benevolence, which it is irrational to suppose any mere accident can possess, but still more from their number and variety. It is possible to believe that a single event, however surprising, may occur once upon an occasion by a fortuitous combination of causes; but it is absurd to imagine that such things can happen regularly, and can happen frequently, and still exhibit the same marvellous property of answering a useful purpose. The fact of intention being established in reference to their occurrence, it is a matter of very little consequence to the argument, whether their production is due to the operation of causes unconnected with the morbid influence, or of others which result from it. In both cases they are equally the work of God, and in both they have an equal claim upon our admiration. Nor does it make the slightest difference in our view, whether we consider the physiological properties of the organism to have been originally framed with a special reference to the pathological necessities that should subsequently arise, or whether we adopt the opposite view, that the

physiological properties having been first established, the pathological arrangements were subsequently framed with a special reference to the former. In other words, whether we believe that God, foreseeing the fall of Adam, framed the structure of his body with a special reference to the necessities of disease that should subsequently be developed; or whether we maintain, as some are inclined to do, that the circumstances of disease, such as they now exist, were arranged in consequence of the organization that had been previously conferred upon the body. The first of these opinions unquestionably exalts the Divine omniscience, and the perfection of His attributes more highly than the latter; but both of them equally refer the production of the provisions we have been considering, to the direct appointment of God, and convert the objection that has been started into a ground for still more deeply admiring the wisdom and goodness of His character.

But whether there be really any force in the objection, as applied to the instances formerly adduced or not, it is important to observe, that it cannot apply in the slightest degree to the cases that are to follow. In these we shall be able to trace a distinct departure from the ordinary operation of the vital forces, such as proves that a new and unusual influence is brought to bear upon them when affected by disease, for the sole purpose

of moderating the violence of its action, and guarding against certain contingent dangers that would otherwise arise. The first illustration I shall adduce, refers to the different effects produced by inflammatory action on the mucous and serous membranes. It might naturally be expected, that the same morbid action affecting these textures, would produce nearly similar results. But this is not the case; a marked and most important difference is observable. It is necessary to mention, that these two classes of membranes differ remarkably in their structure and uses. The serous membranes, as has been already mentioned, are extremely thin transparent textures, perfectly destitute of blood-vessels, and smooth on their unattached surface. In every direction they are closed up, so as to form a shut sac, and the design of their formation is, to diminish the friction of the adjacent structures in their movements upon one another. The mucous membranes, on the contrary, are tolerably thick, highly vascular, and of a soft velvety texture. They are open at one or both ends, when they are in contact with the external surface; and the use that they are intended to serve is, to line the great channels of internal communication, and to permit the passage along their surface of the air, in respiration, and of the materials of nutrition. Now, the difference in the effects of inflammation, as applied to these two

classes of membranes, has reference to the particular ends that were contemplated in their formation, so that this process, which is so easily induced, and so perpetually occurring, might be productive of as little permanent injury as possible. The difference is this, when inflammation attacks a serous membrane, there is immediately poured out upon its free surface a quantity of an opaque white matter, called lymph, which has the property of gluing together the parts with which it comes in contact; whereas, when it attacks a mucous membrane, no such phenomena is perceived, but either purulent matter is formed upon the surface, or a number of round holes are excavated downwards towards the adjacent organs: that is to say, in the one case we have the adhesive, and in the other the suppurative, form of inflammation. This difference in the result of the process does not depend, as might at first thought be supposed, upon the difference of the structures, or upon an inherent incapability upon the part of the mucous membranes to take upon them the adhesive inflammation, or of serous membranes the ulcerative; because we do occasionally, though rarely, find these results occurring. No; it depends entirely upon a special appointment for the purpose of preventing evils which would be altogether incompatible with the continuance of life. If the mucous membrane were ordinarily to assume the

adhesive form of inflammation, the apertures for breathing, on every attack of cold, would run the risk of being stopped up; or if it attacked the alimentary canal, the patient would be in danger of being starved to death, by the passage being converted into an impervious cord. Similarly, if the serous membranes were to assume the ulcerative form, consequences equally disastrous would follow. The integrity of the peritoneum, for example, would be destroyed, and the contents of the stomach would find their way into a situation, where they would no longer be capable of undergoing digestion, but where they would be productive of the greatest inconvenience. Or if it were the pleura that happened to be engaged, the atmospheric air, instead of being confined to the lungs, would make its escape into the cavity of the thorax, where its presence would interfere mechanically with the movements of the chest, and produce embarrassment, if not absolute suffocation. All this, and many other evils of a similar description, are effectually guarded against by the simple circumstance under consideration—a circumstance, as we have stated, not depending upon a difference in the structure of the parts, but upon a difference in the mode of action, imposed upon the vital forces to meet the special exigencies of the occasion.

In the mode by which purulent matter is

eliminated from the system after its formation, we have another example of a peculiar impression being made upon the vital forces to regulate their action for the accomplishment of a useful purpose. This fluid is secreted under two distinct conditions—either on the free surface of the mucous membranes, or in the cavity of an abscess. There is nothing particularly deserving of attention in the first of these, because the open communication that exists with the external air admits of the matter being carried off at each moment as rapidly as it is formed. But when it occurs among the deeper seated textures, as in the second form, there is requisite a special provision for its removal, otherwise it would remain permanently fixed in the place where it is first formed, because, to guard against other dangers, it is not left loosely scattered among the muscles, &c., but securely invested in a membrane formed for the occasion. Were it not for this, it would be taken up by the absorbents, and carried into the current of the circulation, where it would contaminate the blood until it poisoned all the organs of the body, or it would escape into the surrounding tissues, and propagate in its course the inflammation still further: each particle, as it advanced, becoming the source of fresh irritation, and, consequently, of increased danger. All this actually happens in a few rare cases,

when the constitution does not possess sufficient vigour to form an investing membrane for the abscess, and which, consequently, have been denominated "diffuse inflammation"—one of the most fatal forms of this process with which we are acquainted. But let us suppose that the matter deeply seated in some of the internal parts of the body is carefully sealed up in this living case—as it will answer no useful end to permit it to remain there—how is it to be got rid of? It is evident that unless some special provision were made for its removal, it could never escape from its confinement without being productive of injury, more especially when we remember the number of vessels and nerves it must necessarily come in contact with; yet all this is very effectually secured. The whole abscess is gradually transplanted from its original situation to the surface of the body, by a process called interstitial absorption, in which nature takes care to clear the ground she evacuates, at the same time that she extends the lines of her entrenchments in front. In this course the nerves and blood-vessels are either pushed aside, or so invested with a protecting membrane as to be defended from all danger. When arrived at the surface the contents are discharged in the manner with which every one must be familiar, and which, equally with the rest of the proceeding, exem-

plifies caution and care. We have said the direction the abscess pursues in this course is towards the surface of the body; but this, though the usual, is not the universal direction. Occasionally the matter proceeds inwards towards one or other of the mucous membranes, and especially towards that lining the alimentary canal, because, when the abscess discharges itself there, it can easily be carried downwards through the channel provided for its reception. But the former is the rule—the latter the rare exception in these cases; and the reason of the difference in frequency between the courses seems to be, that it is a much easier matter to heal an opening of this description on the surface of the body than on one of the mucous membranes. The latter are invariably connected with a layer of muscular fibres, whose natural action must stretch, more or less, at every moment of their being called into exercise, the texture that is attached to them: added to which the various substances that traverse these hollow tubes must irritate the ulcer, and interrupt the process of cure. The consequence is, that, to prevent the occurrence of these inconveniences, abscesses, even when seated close to the mucous membranes in some deep situation, almost immediately prefer a long circuitous course to the surface, to a short and direct passage in the other

direction. Can we doubt that a fact which is established by the daily experience of every medical man of observation, and which is universally admitted, is really a pathological law established for the very purpose of guarding against the dangers we have mentioned.

We may take another example of the same important principle from the history of acute hydrocephalus, or, as it is popularly termed, "water on the brain." This, as is universally known, is a disease peculiarly affecting infancy, depending partly on the state of the constitution of the persons attacked, and partly on the manner in which the growth of the parts of the body is regulated at that period of life. The former is probably connected with the consistence of the blood in such persons, which is thinner than that of healthy individuals, and so more prone to escape through the sides of the vessel than if it were richer. The mode of growth operates in this way:—In the first years of existence the energy of development seems to be principally directed to the head and nervous system, and, as a necessary consequence, the quantity and impetus of the blood circulating in these parts are relatively greater than in the rest of the body. The vessels of the brain are thus kept in a state of unusual tension at the very time when there is the greatest liability to exhalation taking

place. Now, in accordance with what has formerly been advanced of the inability of the brain to bear any unusual increase in the pressure to which it is subject, it is clear that great mischiefs would arise from this state of things were there not some provision introduced to mitigate their severity. In fact, it may be confidently asserted that, fatal as the disease actually is, it would be much more so, and much more rapid in its progress, were it not for the circumstance, that the cranium does not at that period of life consist of one unyielding mass of bone, as it does in the adult, but of several distinct pieces united together by membranes, capable of a certain degree of extension, and which yield under the pressure to which they are exposed, so as to relieve the brain. It is true that the formation of the head in this way has a primary reference to the mode in which the child is brought into the world, which requires that the head should be, as it were, folded up for the time into an unusually small compass; but what proves that the view here given is also founded in truth is, that while the ossification of the skull proceeds with comparative rapidity in those children who are not predisposed to the disease, it is delayed to a later period in those who are, so that the provision exists precisely in those circumstances where its advantages are most required.

In the usual progress of pulmonary consumption we shall be able to discover several provisions of a similar kind, and which are particularly deserving of attentive consideration. It is hardly necessary to remark that this disease is one of the most frequent and fatal affections that the human frame is liable to; but its tendency to develope new and sudden dangers is very materially diminished by the circumstances to which we are about to allude. It is tolerably well known that the essential feature of the complaint consists in the deposite of a morbid product in the lungs called "tubercl^e," which has no analogy with any of the constituent elements of the body. The formation of this substance seems to depend upon a defect in the powers of assimilation, which, in consequence of inherent or acquired debility, fail to produce out of the materials of the food a chyle of the proper character. The imperfect chyle thus generated and introduced into the circulation is carried along with the rest of the blood to the lungs, where, by virtue of the depurating property they possess, an attempt is made to separate the unhealthy elements from the rest, and so to counteract the mischief they are calculated to produce. Were this organic effort attended with success almost all the peculiar features of this formidable complaint would be arrested. The patient, it is true, might suffer

emaciation and weakness in consequence of the imperfect nutrition taking place in the digestive system, but all the symptoms depending upon organic changes in the structure of the lungs would be obviated. As it is, there is reason to believe that the state of the constitution, upon which the formation of tubercle primarily depends, exists for a considerable time previous to the development of the symptoms that are supposed peculiarly to mark the commencement of the complaint; but the matter being formed at first in small quantities only is carried off as rapidly as it is generated by the provision to which we allude, and which consists in the circumstance of its being thrown out upon the free surface of the pulmonary mucous membrane. It was for a long time a disputed point in morbid anatomy to determine what is the precise seat occupied by the matter of tubercle in the lungs; but the researches of Doctor Carswell have at last set the matter at rest, and it is now universally admitted, that it is thrown out upon the free surface of the air cells and bronchial mucous membrane. At first it exists in fluid form, but exposure to the air in respiration dries and hardens it, so that, collecting in successive layers, it finally assumes the shape of the mould in which it happens to be placed, and this being usually the globular extremities of the air

channels, it is presented to the eye of the pathologist in a spherical form. Two circumstances corroborate the correctness of this opinion of Carswell's, and at the same time show the utility of the arrangement which determines the deposition of the product on the free surface of the mucous membrane. The first is, that the place where tubercular matter is first detected in incipient cases of consumption, is invariably the apex of the lungs. This arises from the limited motions that the upper part of the chest possesses, when compared with the lower, as any one who will take the trouble of examining the ribs during ordinary respiration can easily discover. It is plain that if the tubercle be thrown upon the air passages it will more certainly and more speedily be carried off from those portions which have the greatest and most continuous motions. The second fact is, that while tubercular matter is formed in animals of very different modes of life, the situation, where it is deposited in each, is influenced in a very remarkable manner by the habits of the animal. Thus in animals of sedentary habits, who take little active exercise, it will be found to accumulate in the *lungs* because the slowness of their movements does not sufficiently excite these organs to enable them to discharge the unhealthy deposite as fast as it is formed. This is remarkably the case with cows,

a class of animals that, when kept in large towns, are extremely prone to this peculiar complaint. But in animals of an opposite description—monkeys for example, who take much exercise of a violent description, we do not find the tubercle in the lungs, though it is an extremely common product in such of them as are brought to these countries, but in the spleen and liver. The same idea is confirmed by a comparative examination of the situation of tubercle in children and in adults. In the latter, as most persons are aware, it is found almost always in the lungs, to the exclusion of other organs; but in the former, though it is still constantly met with in the lungs, yet it is frequently found in the liver and spleen as well. The explanation of these facts is to be found in the different degrees of active exercise taken by the child and the adult. Let us suppose that there is an inherent tendency in the economy, to throw out the tubercular matter, whenever it is generated in the system upon the pulmonary mucous membrane, it will follow as a necessary consequence, that the more full and forcible the movements of respiration happen to be, the more perfect will be the elimination of the morbid product. And were it not that the spleen and liver at such times become congested, owing to the unequal distribution of the circulating fluids, whereby the crude particles floating in the blood,

become entangled in the minute cells of their structure, so as to accumulate into irregular masses, there is every reason to believe that the whole would be safely and completely removed from the system. Can we hesitate to admit that the law which regulates the deposition of this morbid product in that part of the body which is best fitted to carry it off safely, has been determined with a special reference to this very object?

But this is not the only example of the same beneficent care that occurs in consumption. The tubercular deposit, hardening as it accumulates, increases in volume, and gradually presses on the surrounding structures, so as to be a source of irritation which eventually leads to the formation of ulcers, or large vomicæ, involving the destruction of considerable portions of the pulmonary tissue. Such a result must be fraught with the highest danger to organs constituted as the lungs necessarily are. Formed for the purpose of depurating the blood by the simple process of exposure to the air, it must be evident that this vital fluid is contained in vessels of the thinnest description, to admit of the atmosphere taking effect through their parietes, and that the lungs must consist essentially of one enormous mass of blood-vessels. Is it possible, then, that any considerable extent of their spongy texture can be removed by ulceration without the patient dying of hemorrhage?

Happily for mankind, such an accident is extremely rare. Were it otherwise, this complaint, which is so terrific, from the number of its victims, would become still more so from the frightful rapidity with which it would hurry them to their graves. The way in which this is guarded against is this. Whenever the matter accumulates in any part to such a degree as to cause pressure on the adjacent tissues, the arteries that convey the blood in that direction become sealed up, and ultimately converted into a solid fibrous cord, so that no more blood can be carried through them. This is effected by means of the sides of the vessel being forced together by the hardened tubercle, inflammation within the vessel being set up, and the opposite sides being glued together. It is for this reason that, when pathologists attempt to inject coloured size into lungs that have been attacked by consumption, they find it impossible to force it in the slightest degree beyond the limits of the healthy portion.

But there is another accident connected with consumption which is liable to occur, and which, though distressing enough when it does happen, is comparatively rare, because provisions exist to guard against its development; and that is rupture of the pleura. This is the delicate membrane that lines the inside of the chest, so as to enable the play of respiration to take place easily in the

alternate expansion and contraction of the thorax. It is by means of this membrane that the lungs are kept applied in the closest manner to the opposite walls of the chest, while they are enabled to accommodate themselves readily to the different degrees of expansion that may be employed in the voluntary efforts of the individual. Indeed it may be said, that it is through means of the pleura that respiration takes place at all. Being a closed air-tight sac, as soon as the powerful muscles which elevate the ribs begin to act, a vacuum would be formed in the interior were not the lungs immediately to swell out and fill up the room thus left in the cavity of the thorax. But whenever this membrane is ruptured, and air gets admitted into the interior, the beauty of this mechanism is destroyed, and the lungs are no longer placed in the same favourable circumstances for expansion that they were before: so that they remain flaccid and motionless. Indeed a more unpleasant effect is sometimes produced after such an accident than the mere loss of motion, and that is the rapid distension of the side with air, so as to compress the lung of one side entirely, and to destroy its whole power of acting. This is produced by the air enjoying a *free entrance* into the cavity of the pleura at each effort of inspiration, while the pressure of the ribs upon the contained air forces the aperture to close, and

prevents its escape, so that the quantity contained in the thorax continually increases with each respiratory movement to the manifest inconvenience of the patient, and to the great risk of instant suffocation. Yet even for this we find a suitable precaution provided, and that is the gradual formation of a thick layer of lymph, covering the entire upper part of the lungs, where the deposite of tubercle is most commonly observed, and where, were it not for this, the progressive ulceration would be most likely to cause the accident to take place. Is it a casual circumstance that determines the formation of this protecting cap, in the very situation, and in the very disease, where its assistance is most required?

When ulcers form within the stomach, as they sometimes do, the consequences are often most deplorable; the patient dying suddenly from the escape of food into the peritoneum, or from the ulcer corroding some of the arteries that invest the stomach, and so producing fatal hemorrhage. These accidents, even when threatened by the formation of the ulcer, are to a considerable extent guarded against by the morbid process producing an unusual thickness in the coats of the digestive tube at the part, and an adhesion taking place between the part where the ulcer is seated and the adjoining viscera. Thus, it is not unusual to find the stomach firmly glued to the liver at the spot where

ulceration has occurred, so that the bottom of the ulcer is formed by the surface of the gland, and no escape of the contents of the stomach can take place into the peritoneum in consequence of the security thus afforded. In other cases the adhesion is to the diaphragm, or to another portion of the alimentary canal, where, if perforation occur, the mischief is mitigated in comparison to what would otherwise be the result, because then the alimentary matters merely pass from one portion of the digestive tube to another.

The last example we shall notice in this chapter is the cautious manner in which spontaneous eva-
cuation of the contents of large abscesses takes
place, and which the medical attendant, with all his
skill, is never able fully to imitate. The opening of
a large abscess is invariably attended with consid-
erable risk. The immediate effect is generally
to produce a large measure of relief to the patient,
but in a short time irritative fever of a dangerous
character succeeds. This is commonly attributed
to the admission of air into the interior of the
abscess, which acts as a foreign body, produces a
change in the character of the purulent matter, and
lights up a new kind of irritation on the walls.
When the opening has been made by art, it is sel-
dom possible to manipulate in such a way as to
admit the escape of the contents, and yet prevent
the admission of air; but when nature undertakes

the operation, she forms a long and tortuous channel in the first instance under the integuments, through which she conducts the purulent matter, and finally erects a sort of sluice-gate near the surface, which allows of its flowing out easily, but imposes an effectual impediment against any thing which would attempt to force an entrance upwards in the opposite direction.

Before leaving this subject it may not be amiss to notice an objection which seems capable of being raised, with some shadow of propriety, against the general scope of this essay, but more particularly against the views put forward in the present chapter. The objection is this: if the facts to which attention has been called be really instances of a direct interference with the obvious tendency of morbid action, is it consistent to maintain that God is at one and the same time the author of sickness and of those provisions which counteract its effects? Would it be rational to suppose that an intelligent being, aware of what he was doing, would continue to destroy with one hand what he was attempting to effect with the other? And if such conduct would be absurd in the highest degree when attributed to an inferior creature, how much more so does it appear when the being to whom it is referred is the most perfect intelligence in existence? The whole force of this objection evidently lies in a

misconception of the design intended to be effected by the appointment of sickness. If the destruction of life were the sole or even the principal object to be accomplished, then there would evidently be an inconsistency in superadding to it any provisions of a salutary nature. But we have endeavoured to show that this is not the case, and that the suffering it induces and the loss of life are only subsidiary to a far higher and more important end. Viewed in this light, the institution of a new series of provisions to check the rapidity of its progress, and to mitigate its violence, is but a link in the great chain of arrangements that have been planned for this object, and so far from establishing the charge of inconsistency that would be attempted to be fastened on its great Author, only tends to exhibit in a clearer way the depth of His wisdom and the perfection of His work.

CHAPTER IX.

OF PROCESSES OF REPARATION OCCURRING IN DISEASE.

If the argument adduced in the last chapter be admitted on examination to possess any force, that which is now to be brought under the notice of the reader, will be found to be no less deserving of his attentive consideration. It consists in the fact, that when a morbid action is set up in any part, that action is not left to proceed to the destruction of the structure or of the patient's life, without an attempt being made by the powers of the constitution to correct its tendency, and to restore the individual to the full enjoyment of his proper state of health. In other words, a process of reparation is set up by nature, quite independently of any artificial interference on the part of the patient or his physician. Now, this attempt at reparation, whether successful or not, carries in the very fact of its occurrence a conviction, that it is not the result of a blind chance working in the dark, but of an intelligent cause presiding over and directing its operations, because otherwise it is impossible to conceive that the change could take place at all. Matters might indeed get worse, but they could never improve. The

continued operation of the morbid influence might easily aggravate the patient's condition, but it is absurd to suppose, that in the very midst of its progress it should suddenly be arrested, and that the vital forces should assume a new and healthy character, without either a special, though unseen, interference at the moment of the change, or a law of the constitution originally implanted for the purpose coming into play to produce the effect. In either case it is a proof of design in contriving the arrangement, and if so, of benevolence as well, because the only object for which such a design can have been formed, must be the benefit of the individual immediately concerned.

This power, which is commonly designated by medical writers the "*vis medicatrix naturæ*," is constantly exhibited in every form of disease, and its importance in the practical management of any case cannot possibly be over-estimated. Indeed, it may be fairly asserted, that it is to this beneficial influence that the recovery of patients is mainly to be attributed: because, although injudicious treatment may counteract its efficient progress, or altogether prevent its successful issue, no amount of skill or attention, on the part of the medical attendant, can supply the want of energy in the constitution, when it happens to be deficient. The physician's care is merely to assist nature in her various struggles, by removing

every obstruction to her effectual operation, and by imparting strength to the vital forces, when too weak to accomplish of themselves the purpose at which they aim.

The first illustration I shall select shall be taken from the class of fevers: of these there are three distinct kinds—the periodic, the specific, and the continued. Each of these classes will exemplify the principle under consideration. Ague may be taken as the type of the first class. It consists, as every one knows, of a succession of paroxysms, varying in duration and in intensity, according to the particular species of the disorder. When the paroxysm has passed away, the patient enjoys, to all appearance, his ordinary health, till the period at which the subsequent seizure occurs; and when, through the agency of medicine or other means, the seizure does not recur, he is cured. In this case, then, in the midst of a febrile paroxysm, whether produced, as is commonly supposed, by the action of a morbid poison, called malaria, or not, the vital forces, after struggling for some time with the insidious enemy, are enabled to resume their healthy action, and to perform their proper functions in their accustomed manner. We are not speaking now of the cure of the complaint, but of the termination of the paroxysm. The ague continues, though the paroxysm passes off. But when the change occurs from the

obvious intensity of a burning fever, to the cool and tranquil condition of apparent health, what is it that determines its development? A change, be it observed, that takes place independently of medical treatment, antecedently to the administration of remedies, and from the very invasion of the complaint. Its occurrence is a necessary part of the natural history of the disease. How, then, is it possible for these forces, when oppressed and trodden down, as it were by a load too heavy for them to sustain, to recover themselves in such a way, as to throw off the weight and assert their original energy? Is it not due to a natural elasticity, implanted in the system with this very intention, and which, like an ordinary spring, increases its resistance in proportion to the strain it has to bear.

The same thing is more plainly shown by the specific fevers. In this class are included measles, small-pox, scarletina, &c. They are marked by distinct and peculiar features, such as being highly infectious, running a definite course, and being rarely taken a second time by the same individual. Their dependence upon a subtle, but inappreciable morbid poison, is generally admitted from the circumstance, that they are capable of being readily propagated by inoculation. Now, in each of these affections, we are able to discover within certain limits, a remarkable regularity in their progress.

Most of them are attended with eruptions on the skin, which appear at definite intervals, and go through a succession of changes, till their final disappearance, leaving the patient weak, but well.

What is it that determines the succession of these phenomena with such astonishing precision? If they depend upon the contamination of the system by a specific poison, what is it that enables it at last, after a protracted struggle, to effect its elimination? If the system is unable to resist its injurious influence at first, how is it enabled, after it has spread its noxious influence through every portion of the frame, ultimately to secure the victory? Must there not be a power in the constitution sufficient to effect its expulsion, which begins its operation at some fitting period, after the development of the fever, and which concludes its task with unerring certainty at the proper time?

The same thing is true of continued fevers also. Ordinary typhus may be taken as the example of this class, which differs in several important particulars from those we have just referred to. There is little doubt that they also depend upon a peculiar poison, but of a different kind. They do not appear to run a definite course, and their duration in different cases varies remarkably. Some cases terminate in a few days, and others run on to three weeks, and even longer. But they

exhibit, in common with other fevers, a tendency to terminate abruptly. This circumstance, which is usually called a crisis, though questioned in modern times, in consequence of the prevalence of peculiar pathological views, was universally maintained by all the older physicians, who were emphatically men of observation, and is again generally admitted by the best informed and most experienced practitioners of the present day. Now, the remarkable feature concerning these crises is this, that although highly beneficial when they do occur, they owe their existence solely to the spontaneous efforts of the vital powers. The physician is unable, by the exercise of all his skill, to bring them about without the assistance of the constitution. He may, and perhaps often does, by injudicious interference, retard or prevent their occurrence; or, on the other hand, he may by well-directed management facilitate their appearance, but they are not his doing. Were it possible for the powers of medicine to develope them, we should undoubtedly have them taking place with greater regularity, and at an earlier period, than they usually do in the progress of the malady. But how are we to explain their production? The natural functions have been all in abeyance during the previous course of the fever: the intellect perhaps sunk in stupor, or oppressed by delirium: what is to de-

termine the sudden and successful termination of that, upon which all this train of morbid phenomena depends? We can only refer it to a wise, but mysterious appointment in the economy of nature originally implanted for the merciful purpose of counteracting, to a certain extent, the destructive agency of those very diseases that the all-wise Author of our existence intended we should be liable to.

Our next illustration shall be taken from the process of cicatrization. The very fact of such a process being observed in the body, is a proof of the correctness of the views here put forward; but an examination of the process in detail, will help to establish them more fully. Whenever there has been a loss of substance in any part of the body, from accident or disease, the vessels in the immediate vicinity of the spot, take on a new and peculiar action to fill up the deficiency. That this mode of action is a new one called into being by the exigencies of the occasion, will be evident from a little consideration of the ordinary process of nutrition. It is generally known, that during the whole period of animal existence, a slow and imperceptible, but steady change, is constantly going forward in all parts of the framework of our bodies, so that at no two periods of our lives does the material organization of which they are composed, consists of exactly the same particles of

matter. The rapidity with which this change proceeds, varies at different epochs, and in different structures, but it is never entirely suspended. It is accomplished by the combined and simultaneous action of the antagonistic functions of nutrition and absorption: the former selecting from the mass of food which is daily consumed, appropriate elements for the repair of the various tissues, and depositing them in the situations where they are required: the latter, on the contrary, removing those which have already served their purpose, and are no longer needed for the wants of the system. When the period of growth has been completed, these functions, if the individual is in health, exactly correspond. Nutrition supplies no more than is needed to repair the waste, and absorption takes away no more than the former is able to supply. When the balance is destroyed, corpulence or wasting is the necessary result, according as the energy of one or the other of these functions happens to preponderate. But even this, within certain limits, is quite compatible with health. So long as the molecules of matter, furnished by the nutrient vessels, are analogous to those which properly exist in the living structures, and in the precise positions where they are found, the deposit, even though in a slight excess, may be referred to the ordinary operation of the function in question. But when

we find a new kind of matter thrown out in any part, we must refer its production to a new and unusual kind of action taking place at the time: and this is what actually occurs in cicatrization. The ordinary operation of nutrition and absorption would leave an ulcer in precisely the same condition in which it finds it: or if there were a slight excess of deposition, there might be produced a swelling of fat or muscle at the spot, but it would be in vain for us to expect the regular formation of all the lost tissues in the exact proportion that would be requisite to repair the injury. But this is what actually takes place. A new and highly vascular structure of a spongy appearance, called "granulations," is produced, which gradually fills up the hiatus with the precise kind of matter it originally held, until the entire space becomes occupied, when the upper surface contracts upon itself, so as to stretch the cuticle from the edges of the sound portion across the wound, until the entire is covered over.

One of the most remarkable examples of the process of reparation occurs in the case of a fractured bone. When such an accident takes place, the assistance of a surgeon is immediately secured, and the limb put in a proper position for the bones to reunite: but, as has been already remarked, when the surgeon has performed this duty, his work is at an end: it is the silent and unseen, but

effectual operation of the living organism that must do the rest; and this is accomplished by an arrangement as beautiful as it is simple. A peculiar fluid is poured out in the immediate vicinity of the broken pieces of bone, which coagulates and becomes organized; it then assumes the consistence of gristle or cartilage, and finally it is converted into bone. In this process there is adopted a contrivance analogous to what surgeons are accustomed to employ for giving support to the ends of the fracture, only much more appropriate. For while the surgeon adapts his clumsy splints to the sides of the limb, and fills up the vacant spaces* between the board and the integument with wadding or cushions, nature makes use of a circular ring, which invests the bone on all sides, and accommodates itself to its exact shape and necessities. Nor is this all. There is another splint, if it may be so called, inserted into the hollow cavity in the interior of the bone, so as to increase its strength and stability, until the newly-formed portions have acquired sufficient firmness to need these artificial helps no longer. This augmentation in the amount of bony matter at the point of fracture is analogous to the way in which two pieces of iron are welded together: the increase in the solid element, augmenting the

* Modern surgery has imitated nature's operations more closely, by various contrivances, which are not liable to the same objections as the one stated in the text.

strength of the part, and diminishing the chance of subsequent fracture. Both of these very important securities, the external ring of osseous matter, and the internal deposit, remain a considerable time after the fracture has been satisfactorily united, because whenever a tissue has been recently formed, it is deficient in consistence and tenacity, but as the necessity for their continuance diminishes, they are gradually absorbed until the bone is left in a condition similar to what it possessed originally. In all this we see not only the broad feature of a new and beautiful contrivance to meet a special case, but when we examine it in detail, we find the same principle still more apparent. What is it makes the vessels pour out at such time a fluid with such peculiar properties, and not on other occasions? What causes cartilage to be formed in an unusual situation? What converts that cartilage with such unwonted rapidity into bone? What causes the absorbents to leave the superfluous bony matter so long on the outside and inside of the new bone? What causes them again at a subsequent period to remove it after its work has been accomplished, and when it is no longer necessary for any useful purpose? These are questions which it would be very hard for any one to answer, who believes that accidents and disease are the result of chance or the work of an evil spirit; but they present no difficulty to him, who believes that

they are the appointment of One who chastens us for our good, and who mixes up mercy with every manifestation of judgment.

The next illustration we shall direct attention to is the power of selection that the absorbents appear to possess in the performance of their office, so that they do not take up, indiscriminately, the particles of matter diffused through the body, but those only which are least necessary for the purposes of the economy. We have already had some examples that illustrate this position, but we shall select another from what occurs in inflammation of the eye. In this organ, owing to the transparent nature of the textures, we are enabled to watch the progress of the changes that take place there with great exactness. When the iris, that beautiful curtain that is suspended in the interior of this animated telescope, for the purpose of regulating the quantity of light that falls upon the nerve of vision, happens to be inflamed, its shape is altered by the contraction of the lymph deposited upon its surface, and its colour is changed. This effusion is caused by the morbid action of the nutrient vessels. Let us suppose that such a case has been judiciously treated in the ordinary way, and that the patient is recovering; under such circumstances the lymph becomes absorbed, the iris resumes its original shape and colour, and recovers its power of adapting itself

to the varying intensity of the light, to which the eye is exposed. Now, the remarkable circumstance to which we are anxious to direct attention, is, that while the energy of the absorbents is enormously increased under the action of medicine, they do not remove, indiscriminately, the particles of which the iris itself is composed, but the lymph, which is entangled in the meshes of its texture. And yet, why do they not? What gives them this strange discernment, by which they are enabled to discriminate with unerring precision, what is noxious from what is necessary? It certainly is not the medicine, for that appears to act solely in increasing the general rate at which they move, and in augmenting their energy. The same thing happens in other cases also, when this organic sensibility is manifested, and where medicine can have nothing to do with the result.

The only other illustration we shall bring forward under this division of the subject, is taken from the history of aneurism—a disease affecting the blood-vessels, and consisting of a tumor, connected with their course. The sides of the arterial tubes are formed of three distinct membranes or coats, of which the external alone possesses any considerable degree of extensibility. This quality enables it to resist injurious impressions more effectually than the others. It consequently happens, not unfrequently, that the two

internal tunics are ruptured, while the external retains its integrity. The blood escaping through the laceration forces the external membrane before it, and forms a swelling of greater or less dimensions on the side of the wounded vessel. It is scarcely necessary to observe, that such an event must be attended with the greatest danger. Were the whole three coats to give way at once, death would instantly follow, if the artery happened to be a large one. It is the elasticity of the external coat that, in the first instance, is the principal protection against this fatal hemorrhage. After the disease has had time to develope itself, other safeguards are provided to assist, but at first the sole resistance to such a disasterous result is to be found in the strength and extensibility of the outer membrane. It may well be imagined, that if there be any reality in the doctrine we have been advancing, there should be easily discovered evidences of a preservative and reparative character in so formidable an affection, when the slightest shock to the system, mental or corporeal, is sufficient at any moment to hurry the unfortunate patient into eternity. Nor is this expectation, on investigation, found to be groundless. We discover in the progress of the complaint, provisions to guard against sudden death, and provisions to promote recovery. The blood accumulated within the sac, and cut off in a manner from the rest of the circulation, gradually coagulates, and forms

a succession of layers on the inside, which strengthen the walls of the vessel, and form a sort of breast-work against the threatened danger. Nor is nature satisfied with a simple effort to palliate so formidable an evil. An attempt at spontaneous cure, though not often successful, perhaps from causes which are capable of explanation, is still very frequently made. The volume of the tumor gradually enlarging, and pressing upon the adjoining textures, is at last made to react upon the calibre of the parent vessel: the consequence is, that the current of the blood is interrupted, the opposite sides of the artery are forced together, inflammation is produced, and the vessel is converted into a solid fibrous cord. When this has happened, no further risk is to be apprehended, the pulsation in the tumor ceases, the absorbents begin to play upon it, and in a short time almost every trace of its previous existence disappears. It may be thought that such a result must be fraught with new dangers of another description. The obliteration of the artery, and the arrest of the flow of blood to any part of the body, cannot happen without corresponding injury. But careful nature leaves no part of her work undone: even these inconveniences are anticipated and guarded against. But the consideration of this point belongs to another division of the subject, which shall therefore be reserved for the next chapter.

CHAPTER X.

OF PROCESSES OF ADAPTATION OCCURRING IN DISEASE.

Many diseases, it is hardly necessary to remark, are found by experience to be incurable, though they exhibit no obvious tendency to prove immediately fatal; the patients continuing to live and to discharge all the ordinary duties of society, notwithstanding their continuance. This result is occasioned at times by the neglect of proper treatment at an early period of the disorder, and on other occasions, by the peculiarly intractible nature of the malady. The inconvenience and pain that persons thus circumstanced are obliged to endure, are often very considerable, but their sufferings would, in most instances, be much greater were it not for certain alterations of structure, kindly introduced into the economy at such times, for the very purpose of meeting the altered condition of affairs, and of compensating, to some extent, for the disturbance in the animal mechanism that has thus unhappily taken place.

These special arrangements to accomplish this object, may be called, not inaptly, processes of adaptation, and it shall be our business now to proceed to consider a few of them in detail.

The first to which we shall direct attention, has reference to the heart, as the great moving power of the circulation. We have already had occasion to point out the peculiar circumstances under which this important organ has to perform its office. Placed near the centre of the body, it has to propel a current of blood upwards towards the head, in opposition to the force of gravity, as well as to sustain the pressure of a column of fluid, contained in the cerebral vessels. In performing this duty, the heart is materially assisted by three valves placed at the commencement of the great artery, which issues from its base, and which, acting like the sucker of a common pump, permit the free escape of fluid in one direction, but effectually restrain its passage backwards. In consequence of this contrivance, the muscular structure is enabled to enjoy a short but real interval of rest between each successive contraction. But these valves, perfect as they are in health, are liable to disease, and rarely does it happen after such an attack, that they continue capable of discharging their function. Their edges become contracted or uneven, or they adhere together, or to the sides of the vessel, so that they no longer close upon the orifice, and the mechanism of their construction becomes imperfect. Regurgitation takes place, and the heart has to sustain thenceforward the continuous pressure of the superincumbent blood. Its natural

rest is destroyed, and the leverage of the muscular fibres, as must be apparent to every one conversant with mechanics, is placed under a striking disadvantage.

Is such a state of things, when it exists, suffered to continue without some effort being made to correct or to compensate for its occurrence, and if not, what is the provision made to supply the difficulty? The simple answer to such a question is, such a state of things is not suffered to remain exactly as we have described them, but the muscular structure of the heart becomes hypertrophied—in other words, greatly enlarged, whereby its motive power becomes increased in a degree somewhat proportioned to the augmented duty it has to perform. Were it not for this circumstance, it would be absolutely impossible for this organ, so essential to life, to continue to act for any time without rest and without assistance. And here it is not sufficient for us to remark, that nature has provided a method to relieve so distressing a malady, it becomes us also to ask what is it that calls this hypertrophied condition into existence? It cannot be the mere mechanical force of the column of blood pressing downwards on the heart, for if that were left to act of itself, the only effect it would be capable of producing would be, to enlarge the capacity of the heart by dilating its sides, as occasionally happens, and by expanding the mus-

cular fibres to diminish their strength. Such a state of things would go on, deteriorating with rapidly increasing velocity, till the attenuated organ would be broken through, and the death of the patient effected. There must be then some special law in the economy to counteract this tendency, and to ordain that vigour and strength shall be supplied to those parts which peculiarly require them, otherwise it would be impossible to conceive that the growth of a tissue should bear a proportionate ratio to the exigencies of its position. And if such a law does actually exist, it can be the result of nothing less than of deliberate foresight and design.

Let us proceed to consider another example connected with the circulation, but having reference to the veins. This set of vessels differs from the arteries, not only in the quality of the blood they carry, but in the rate of the current, and in the forces that maintain it. In the arteries the blood moves rapidly in a jerking manner, giving rise to the phenomenon of the pulse. This arises from the cause of motion in these vessels being principally, if not exclusively, the contractile energy of the heart. In the veins, on the contrary, the current is remarkably slow and tranquil, and altogether destitute of those waves or pulses that are conspicuous in the arteries. The reason of this is, that the blood in passing through the minute

vessels called capillaries, that lie between the extremities of the arteries and veins, is removed from the influence of the heart's action, and is brought under the operation of other forces that act more uniformly. But these are not the only differences between these two sets of vessels; they differ remarkably in structure also. The coats of the veins are thinner and weaker, and furnished with valves at suitable distances on their interior. These valves permit the blood to advance freely in their proper course, while they restrain every movement in the opposite direction. But they serve another purpose also. By dividing the column of blood into several distinct portions they relieve the lower division of the vessel of a considerable part of the weight they would otherwise have to sustain, and so enable the thin delicate coats of which they consist, to resist the pressure of the fluids they contain. It is a well established principle in hydraulics, that the pressure upon any part of a tube is proportional, not to the absolute quantity of fluid it may happen to contain, but to the height of the column in which it is sustained above the part. Apply this principle to the veins, and we shall find that, near the heart, the veins, from their large size, contain a large quantity of blood, while the lateral pressure on their sides is small. In the extremities, on the contrary, though the diameter of the vessels

is trifling, the pressure on their sides is considerable, because the vertical height of the liquid column is then great. The valves are few in number in the former situation, where they are little needed, but they are numerous in the latter, where their utility is obvious. By breaking the whole extent of the veins into several short and independent tubes, they relieve the parietes which would otherwise burst and discharge their contents into the surrounding tissues. Now, it not unfrequently happens, that the veins of the legs, which from their depending position have the greatest weight of blood to support, become swelled in their transverse diameter, so that the valves which, under ordinary circumstances, are sufficient to cover the opening, become no longer capable of stretching across the whole way, and a portion of the blood makes its way back to the lower parts of the vessel. In proportion as this occurs their office fails, and hydrostatic pressure passes downwards through the whole length of the tube. This varicose condition, as it is called, is usually produced by the compression of a tumor on the upper part of the vein, or by the habit of wearing tight garters, which interfere with the due advance of the particles of blood. Persons who are thus affected, are particularly liable to suffer from troublesome ulcers on the legs, which often bleed,

and are productive of much annoyance. But the evils which are thus occasioned, and which are always extremely difficult of removal, are in a measure mitigated by the increased thickness of the venous coats that is observed to take place under the circumstances, so that the vessels are enabled to bear a degree of pressure that they would not otherwise be capable of doing. Here again we see the growth of a tissue preserving a proportion to the amount of duty it has to perform.

In the last chapter we spoke of the provision that nature makes for the cure of aneurism. This desirable object is seldom effected by the unaided resources of the economy, though it is often cured by the skill of the surgeon. Indeed the treatment of these dangerous tumors, is one of the most brilliant pages in the history of modern science: so sure and so successful has the management of these cases become, which a few years ago would have been considered absolutely hopeless. But whether brought about by the unassisted efforts of nature, or by appropriate treatment, the result in all cases is the same, so far as the vessel itself is concerned. It becomes stopped up at the part, and is no longer capable of transmitting blood. This, when the artery is of any considerable size, would be attended with the greatest injury, were there not established at the same moment, a cor-

responding provision to supply nourishment and vitality to the parts of the body thus unexpectedly deprived of their accustomed support. Gangrene of the foot is not an uncommon result of such a condition, occurring in old persons, where the arteries of the leg have been attacked with inflammation, and sealed up in consequence. To guard against this danger, we find a suitable provision made to meet the emergency. Immediately above the place where the aneurism was seated, one or more of the branches proceeding from the same arterial trunk become enlarged, so as to receive an equivalent quantity of blood, to what formerly passed in the direct channel. These branches taking a circuitous course, gradually establish a new circulation in the parts deprived of their usual elements of growth, so that the functions of life are soon performed with all their accustomed energy and efficiency. It may be said, perhaps, that this is the necessary consequence of the pressure of the arterial current, which is now forced upon the smaller branches in the vicinity of the obstruction, and not the result of any special contrivance to counteract an admitted inconvenience. But even were we to admit that the effect in question is produced in the manner stated, it would not in the slightest degree interfere with the inference, that it is the result of design. We see that a necessity exists for a col-

lateral circulation; we see that in due time that collateral circulation is provided: it is a matter of comparatively little consequence what the precise *modus operandi* is that is employed in providing it. But the objection itself falls to the ground when we remember that, owing to the peculiar structure of the arteries, the pressure occasioned by the obstruction to the circulation at one point is diffused uniformly over the entire vascular tree, and not concentrated, as might at first be supposed, upon the part immediately affected. The elastic nature of the tissues of which they are composed fully proves this. So that we are bound to explain the production of the collateral circulation, by an organic law of the economy, and not by the mere circumstance of a mechanical expansion.

The next example we shall take from the morbid anatomy of the liver. One of the purposes accomplished by this gland is, to act as a reservoir under certain circumstances for the blood. It will easily be understood that as the rate of the circulation varies at different times with the nature of the employment in which we happen to be engaged, congestion of the lungs would be frequently induced, were there not some provision made to relieve them of the load of blood at such times thrown upon them. The first effect of exercise taken suddenly must be to propel a

larger quantity of blood forward by the veins towards the heart, than can be transmitted by it through the arteries. After a time these two proportions may adjust themselves to one another and to the altered condition of the function, but the first effect must evidently be to disturb the relation between them: and so far as it does this, to produce inconvenience to the individual. This pulmonary congestion is not only attended with the risk of hemorrhage, itself a formidable evil, but it also interferes mechanically with the due aeration of the blood: because this latter function requires for its complete accomplishment an amount of exposure to the atmospheric air, proportioned to the quantity of fluid contained in the lungs. Now, the liver acts as a safety valve on these occasions, an office for which its spongy texture, and its situation in the abdomen, where it can freely enlarge in volume, especially adapt it. Every one must have felt, at times, when he has begun to run quickly, a sudden sensation of fulness in the right side, accompanied by a sharp pain or stich there: this sensation is due to the rapid expansion of the cells of the liver with the blood it receives. Like the regulator of a steam engine, it adapts the supply of blood admitted to the lungs, to the exact amount they are capable of employing beneficially: the remainder is permitted to accumulate within its vascular texture, till the

strain upon the heart has been taken off. But it sometimes happens, more especially in persons of intemperate habits, that the liver becomes unfitted for this office. Its volume is diminished, often to one-third of its natural size; its vessels are contracted, and instead of being easily distensible, it is firm and unyielding. What becomes of the lungs under this state of things? Do they suffer the inconveniences that might naturally be expected from the change? No; they are protected by the simple arrangement of the spleen being called on to perform the function that the liver is no longer competent to discharge. The spleen is a reservoir as well as the liver, but of a much more limited kind: its duty being especially connected with the process of digestion, and to provide for the varying quantity of blood furnished to the stomach, in its states of activity and repose. Like the liver, when in health, its size is undergoing perpetual variation, being small when the accumulation of blood is trifling, and large under opposite circumstances. But whenever the liver becomes permanently contracted, as in the disease called hob-nail liver, it is found to be permanently enlarged for the obvious purpose of meeting a necessity that does not usually exist, but which, unless obviated in this manner, would be productive of injurious consequences.

The last example to which we shall allude, has

reference to the size of the heart in consumption: a matter apparently of little moment in so serious a disease, and one not generally taken notice of. But though not of much pathological importance, compared with other points in the complaint, it is interesting as illustrating the principle of adaptation in the general economy. This organ, after death, is constantly found much smaller in consumption than usual: a result which is partly the consequence of that process of emaciation, which forms so prominent a feature in the complaint. The fat, and a portion of the muscular fibre, are removed by absorption, so that whatever its real dimensions may happen to be, it presents the appearance of being small and shrunk. But emaciation is not the only cause of the alteration. There is a real as well as an apparent diminution. The change in question is the result of a reduction in the quantity of the circulating fluids, whereby the vessels lose their tension, and the pressure upon the cardiac cavities is gradually reduced; just as we know that the volume of an elastic globe depends altogether upon the amount of fluid it contains. This reduction in the quantity of blood, in consumptive patients, is brought about by exhausting discharges, and especially by the profuse perspirations at nights, with which they are commonly affected. Now, in this circumstance, we have an illustration of the

way in which the economy is altered to meet the effects of disease. The lungs, from the destructive changes that take place in their structure, become no longer calculated to perform the function of respiration, or even to transmit the blood, except to a very limited degree: vascular accumulations, hemorrhage, and various kinds of distress would be the necessary consequence, were not the quantity of blood reduced to an amount proportioned to the altered capacity of the lungs. When this has taken place, painful as the process by which it is effected may be, and temporary as the relief usually is, yet the patient's condition is rendered much more safe, if not more comfortable than it would otherwise be, were the vessels to retain the quantity of blood that is usual in the standard of health.

It is scarcely necessary to pursue this subject farther. Many other examples might be adduced, all tending to show that in chronic affections, especially those which have no obvious tendency to destroy life, there is a kind and admirably adjusted adaptation in the mechanism of the human frame, to enable it to endure evils which cannot be shaken off, and to resist impressions which it is perpetually exposed to.

CHAPTER XI.

OF THE USE OF DISEASE, AS AFFORDING ILLUSTRATIONS
OF SPIRITUAL TRUTH.

Having so far considered the evidence of design furnished by the phenomena of disease, it may, perhaps, be thought unnecessary to pursue the examination of the subject farther: but we should be guilty of a flagrant omission, were we to avoid noticing another important purpose, that it appears calculated to accomplish, but which may not be so obvious to an ordinary observer, and that is, its suitableness to illustrate the great doctrines contained in the sacred Scriptures. That it was designed to accomplish this purpose, in addition to the others which have been mentioned, can scarcely be questioned by any one who admits the truth of Revelation. Every page of the inspired record abounds with expressions originally taken from the language of medicine, which are applied figuratively to express the condition of the soul, as it exists under the dominion of sin. This mode of inculcating truth by analogies and emblems, possesses many advantages over the simpler forms of didactic instruc-

tion. A plain statement of a fact or of a truth, though it may startle the hearer at first by its novelty, and though it may gratify him, by the addition it makes to his store of information, is yet deficient in many of those elements, which are necessary to make a proper impression upon the mind. It makes its way direct to the understanding; it requires no explanation to act the usher, and introduce it into the presence-chamber of reason; it induces no exercise of thought; it gives no scope to the imagination. The whole work necessary for its perception is accomplished in an instant, and the mere effort of attention is all that is requisite to enable it to produce its full effect. But the ease with which it is at first apprehended, only diminishes the impression that it produces subsequently. And this is still more strikingly the case, when the same idea happens to be a second time presented to the mind. The original want of ornament in the language is then peculiarly injurious, because the charm of novelty, which compensated in some measure for the deficiency at first, is under these circumstances necessarily lost. Figurative teaching, on the contrary, by throwing a thin obscurity over the subject of which it treats, obviously quickens the perceptive powers, to discover the latent meaning of the language that is employed, and by exciting the natural curiosity of the hearer, makes

the impression it produces deeper and more permanent than it would otherwise be. Besides, by calling into requisition the playful faculty of the imagination, it gives rise to the highest intellectual gratification of which the human mind is capable. And this not at the moment only when the idea is heard for the first time. Even on subsequent occasions, in consequence of the way in which the various faculties of the mind are called into exercise, it retains much of its original freshness, and of its power of producing agreeable emotions, that it possessed at first.

It can scarcely be matter of surprise then, that a system of teaching which possesses such manifest advantages, should be largely employed by the divine Being, in His arrangements for communicating instruction to His creatures. We know that it has been thus used in the pages of Revelation. The types and ceremonies that abound in the Old Testament dispensation especially, are all proofs in point of the truth of this assertion. And there is reason to believe, that, even in external nature, many of the physical phenomena that surround us are really emblematical, though the clue to the right interpretation of them has been obscured or lost.

But to return to the immediate subject which we have proposed for our consideration in the present chapter, we shall commence with a few

remarks on the leprosy of the ancients, both because of the striking peculiarities that it presented, and still more because no question can be raised as to the fact of its having been originally designed for the very purpose to which we are now about to apply it. The first particular to be noticed is the remarkable law that excluded the leper, as an unclean person, from intercourse with the rest of the community. This, doubtless, arose from the contagious nature of the malady, and was framed for the purpose of preventing the propagation of the complaint among the healthy. The effect of the enactment was, to render the unhappy man's condition most miserable. As if the sufferings of the disorder were not sufficient to distress him, he was made an outcast from society, and even his nearest relatives and most familiar friends were cut off from any intercourse with him. Nor was this all. He was debarred from all participation in the privileges of religious worship. He dare not enter the sacred precincts of the sanctuary, even to bend his knee in prayer, or to lift up his voice in praise. What rendered the force of these evils the greater was, the uncertainty of the length of time they might continue. Unlike those which have been termed acute disorders, from the shortness of their duration, the leprosy lasted an indefinite period, and, to the large majority of patients, the grave

alone afforded the hope of release. In all this we may notice a marked distinction from other ailments. Many of them, no doubt, were as infectious as the leprosy, yet the patients who were attacked by them were not driven to the solitary outskirts of the camp or city, as the lepers were. Other complaints produced on the minds of the by-standers sympathy, and a desire to render them every assistance in their power; this, on the contrary, only aversion and disgust. Have we not in all this a striking illustration of the nature and effects of sin? It contaminates every person with whom it comes in contact. "Evil communications," it is written, "corrupt good manners." It excludes effectually from the celestial city, and from the society of Heaven. It excites not so much pity on the part of the un-fallen angels, as horror and disgust. It supplies no sustaining hope to the unhappy victim that the violence of the indwelling corruption shall speedily be removed, but it rather suggests the desponding thought, that it will only wear itself out in the final death of the soul. Who can contemplate the doom of the sinner, as he is to be cast out into outer darkness, apart from the companionship of the redeemed and of every thing that is good, without being struck with horror at the thought of such a state. Yet such we have reason to be assured, from the authority of the written

word, is to be the melancholy lot of all the unregenerate.

Again, the plague of leprosy affected not only persons but things, and so obstinately did the poison cling to whatever it had once infected, that it could only be removed by the complete destruction of the article. Houses had to be taken down, clothes and furniture to be burnt, before this object could be accomplished. And is not this also the case with sin? These bodies of ours in which we live, like the plague-polluted habitation of the leper, are so saturated with the corruptness of a fallen nature, that they require to be taken down in death, before the contamination can be got rid of. The world itself, with all the furniture of external nature that has been witness to the wickedness of man, and an unwilling instrument in his hand for the accomplishment of evil, must yet be purified by fire, before it shall be fit for the residence of the redeemed. But if these tabernacles be taken down, it is only for the purpose of being built up again of new and more glorious materials, perfectly free from all their present imperfections, and altogether incapable of future evil. And if the material world is to be burnt up at last, as prophecy distinctly teaches, it is only to make way for a new earth and a new heavens, wherein righteousness is to dwell eternally.

A third feature in the leprosy was its progres-

sive character. It never remained stationary. It was a constitutional distemper: and hence, although the external evidence of its existence was but a small spot in the forehead, it was as dangerous in its nature, and as certain in due time to spread, as if it were more conspicuous and more extensive. And does not this correspond with what we know is the nature of sin. It is a constitutional malady of the soul: some forms may appear slighter and less deeply seated than others. Some may be more offensive in their outward aspect than others, but the principle upon which they all depend is essentially the same, and unless restrained or removed by the grace of God, they are all equally liable to spread and to increase in virulence, till the least offensive assume the grosser aspects of depravity.

Lastly, the poor leper was altogether incapable of being cured by human means. The resources of art had no remedy sufficiently potent to meet the necessities of his case. On the first discovery of his condition he was directed to present himself before the priest, but it was not with the hope that any thing was to be done for his relief, it was only for the purpose of having his exact state authoritatively determined. Even the minister of the sanctuary was powerless before so inveterate a malady. Not that it was always incurable. A few rare cases occasionally got well, but it was not through the employment of any special

means of cure. If cured at all, it was solely by the direct but secret interposition of the divine mercy. And whenever that happy change occurred; whenever some outward symptoms of that real but invisible alteration had appeared, he was directed again to go before the priest, in order to have an authoritative announcement that his recovery was real, and not delusive. Such an assurance coming from such a quarter would be not only a guarantee to his friends that they might unreservedly communicate with him, but it would diffuse an abiding satisfaction through his own breast, in the feeling that he was not mistaken as to the reality of his recovery. Can we not trace a similar train of events in the history of the sinner? Is there any human power that can deliver him from the bondage of indwelling corruption? He cannot emancipate himself, neither can any friend or minister of religion. Under the searching ministry of the word, he may have the misery of his condition more clearly brought home to his conscience, but it is only the omnipotent energy of the Holy Spirit working inwardly upon his soul, and removing the leaven of evil, that is continually fermenting within him, that can effect the great change necessary to salvation. But when this change has been effected, and he has gone in spirit into the presence of the great High Priest of the upper sanctuary, and has

received at His hands, the assurance of acceptance and peace, how great is the joy that takes possession of his soul. With what confidence can he then betake himself to the assembly of the saints, and mingle in their communion. The exultation of the poor leper as, returning from the presence of the priest, he cast aside his clothes and returned to his family and his home, was nothing in comparison with the ecstatic delight with which the assured believer rejoices in his restoration to the favour and family of God.

The next subject to which we shall direct the reader's attention, as affording another illustration of the same kind, is insanity. We shall not attempt to describe all the forms of this protean malady, but select one or two of those which are generally known, and which appear suited to the purpose. For instance, a man in the full enjoyment of bodily health, and possessing all the mental faculties necessary for the proper discharge of the duties of life, behaves himself in a way that convinces every one who sees him, that he is not in his right senses. He neglects his business; he ceases to labour for the support of his family; he squanders his property. Such a course of conduct may be the result of a delusion, perverting his judgment, or it may occur independently of delusion. It may be impossible to account for it upon any rational principle. In

either case the conclusion is equally clear. It is a matter of very little consequence, so far as his state is concerned, whether the time that ought to be spent in useful employment is wasted in idleness, in absurd pursuits, or in absolute mischief. It would be easy to produce examples of each of these forms of folly among lunatics, but the malady is the same, notwithstanding these slighter distinctions. One of the most striking features of the distemper is, the utter impossibility of convincing them that their conduct is inconsistent with sound reason. Arguments are of no avail when directed against such a state of mind. Even when they admit that their conduct, under ordinary circumstances, would be extremely foolish, they maintain that there are peculiarities in their case which altogether alter its character, and render it perfectly rational and becoming. Nay, they think that to act otherwise than they do would be to be guilty of the very madness with which they are charged. They all agree in entertaining a fixed conviction of the propriety of their own actions, and of the whole world, so far as it differs from them in opinion on this subject, being wrong. Have we not in these particulars an apt illustration of the conduct of worldly men in general? Some spend their lives in frivolous amusement, and are emphatically men of pleasure. Some are engaged in the grosser forms of

vice, to their own infamy, and to the serious injury of every one who comes in contact with them. Some honestly pursue their proper calling, but in such a way as to forget that they have any thing else to attend to. Is it not madness to concentrate one's whole attention upon the brief engagements of the present life, to the complete exclusion of the momentous concerns of an eternal existence? In what respect does the passion for accumulating a large balance at a banker's to lie there useless, differ from the passion of a drivelling idiot to heap up a quantity of sand, or shells, or broken delf? Every one who is guilty of such gross neglect of his eternal interests, forgets the great end for which he was called into being. He fails to make provision for a future day. He squanders his time—which is his property—in a reckless and unprofitable extravagance. And the impossibility of convincing him of the folly of his conduct, is no proof of his rationality, but the very reverse. It supplies the necessary link to complete the analogy between him and the poor lunatic, whose infatuation he is so ready to denounce.

We have a still stronger instance in the case of monomania. In this form of insanity an individual labours under a delusion upon one solitary topic, while in every other respect his intellect retains its accustomed clearness. Such persons

often possess a highly-cultivated mind, and are capable of reasoning with great closeness and ability upon every subject unconnected with their delusion; so much so, that it is often difficult to persuade casual observers that there is any thing the matter with them. They manage their affairs judiciously. They make bargains and converse freely. But whenever the subject of their delusion is touched upon, in ever so slight a manner, their malady becomes apparent. And although it does occasionally happen that an infirmity of this kind may be closely concealed from general observation for a very long period, yet the more common occurrence is, that the delusion, whatever be its nature, is so twined round the thoughts and the affections of life as to influence, to a very great and to a very obvious extent, all the actions of the individual. So close is the connexion subsisting between our views upon various subjects, and so easily does a false impression impart its peculiar tinge to the whole of our intellectual existence. Now, in this we can easily discover an analogy to the way in which many shrewd men of the world are affected. They take up, without thought and without examination, certain crude and false notions of the divine character and government, which have no more solid foundation than the empty conceits of a poor madman's brain; and they are so impressed with their

accuracy, that the whole of their conduct is as much influenced by them as if they were established and admitted truths. No mistake can be more important to a responsible creature than that which concerns the nature and attributes of the great Being with whom he has to do. Yet how few are willing to receive implicitly the statements of the only standard authority upon these very questions. Multitudes never set themselves seriously to inquire into the matter at all. Multitudes who do, form their opinions from vague impressions floating in their mind, and should the accuracy of their conjectures happen to be questioned, disregard the evidence of an opposite nature that may be presented to them, but persist in clinging to their foregone conclusions, notwithstanding the explicit statements of the word of God. Is conduct such as this one whit more rational than that of the lunatic, who maintains the reality of his own delusion, in opposition to the evidence of his own senses, and to the testimony of competent witnesses?

But monomania exhibits itself in another form. It consists in a perversion of the feelings, when there is no delusion to sustain it. An individual entertains an unaccountable and an insuperable aversion to certain persons and places. This estrangement is principally manifested towards a man's immediate relatives or friends. It is seldom

that strangers are ever regarded in this way. Every thing connected with the object of dislike participates in the feeling. The place of his dwelling, the books he reads, the people he associates with, all come in for a share of this perverted affection. Does not this exemplify, in a striking way, the alienation of the natural mind from every thing that is good? The carnal mind, we are told, "is enmity against God," and it requires very little experience of ourselves, and very little observation of others, to confirm the truth of the Scripture statement. Nor is this aversion based upon a delusion. It is a kind of moral insanity. It is a real but unaccountable hostility, and it is as permanent as it is deep. The objects of our dislike are really worthy of our best affections, and are, properly speaking, our kindest friends. But though we know this to be the case, we feel within our breast an unconquerable repugnance to their society, and to every thing connected with them.

We shall next speak of blindness, as affording a type of man's spiritual state by nature, and in doing so, no doubt can be entertained of the propriety of the analogy, because it has been used for this purpose by our blessed Lord himself.—John ix. 39. It is important to observe, that this state may depend upon a variety of causes. The nerve of vision may be paralyzed, constituting

the condition that has got the name of amaurosis. In this case there may be no impediment to the entrance of the rays of light into the eye, and yet the person may be incapable of seeing. In the clearest sunshine he is as much in the dark as in the thickest midnight. The impression is made upon the retina, but the insensibility of the membrane prevents its being conveyed to the mind. On the other hand, blindness may result from impediments of a mechanical nature interfering with the apparatus of vision, while the optic nerve retains its integrity. The eye is an optical instrument of the most delicate construction, admirably adapted to convey the images of external objects to the proper place for their perception. But to be of any use, the glasses, so to speak, must be perfectly clear: if their transparency be destroyed by any cause, it ceases to answer the purpose for which it was intended. This actually occurs, as most persons are aware, in the case of cataract, where the lens is converted into an opaque mass, and also in the case of inflammation, destroying the proper texture of the other tissues of the eye. Blindness produced by mechanical causes such as these, is seldom so perfect as that which depends upon amaurosis, because, should the rays of light penetrate in ever so slight a degree through these obstacles, into the chamber of vision, the soundness of the optic

nerve enables it to take cognizance of their presence, although their limited number may not be sufficient to enable it to see distinctly. These points, in the natural history of blindness, having been noticed, it may be remarked that similar distinctions may be observed in that spiritual state of which they are the emblem. Amaurotic blindness may be taken as a type of man's natural ignorance of spiritual things. He is not only in a state of darkness, but it is a darkness depending upon a want of power in his perceptions: he is incapable of apprehending the truth, even when it is presented to his notice. Though placed in the most favoured circumstances in a Christian land, under a faithful ministry, with the clear light of evangelical truth shining continually around him, he is, until the grace of God quickens his spiritual perception, as dark in his knowledge of divine things as if he were living in the midnight gloom of heathen superstition. The other forms of blindness appear properly to illustrate the ignorance of persons whose minds seem to have been partially enlightened, but who from prejudice, self-interest, worldly influence, or defective education, labour under false views of scriptural truth, notwithstanding the change that appears to have taken place in their real condition. In such cases the light of revelation, struggling through the impediment thus inter-

posed between it and the conscience of the individual, produces some effect upon the life and character, though it fails to enable him to see distinctly and to walk consistently.

Paralysis is another affection which may afford several apt illustrations of what we are continually observing in the world around us. It may exist in different degrees, and it may affect the nerves of sensation or of motion separately. When the paralysis is complete the nervous energy of the part is entirely destroyed, when it is incomplete it is only impaired. Each of these varieties may be distinguished in the two kinds of the affection. When the paralysis affects the nerves of motion and is complete, the limb hangs powerless from the patient, who is incapable of lifting it, as he would do in health, by the spontaneous exercise of volition. If moved at all, it can only be by the assistance of the patient's sound limbs, or by some one else. When the paralysis is imperfect, a certain degree of power remains in the part, but the movements are stiff, unsteady, and irregular. Occasionally convulsive twitches of an involuntary character come on in the limb, which are very distressing to the patient. These he can neither stop nor control. Similar varieties may be observed in that form of the complaint which affects sensation. In the highest degree the patient loses all feeling in the part. It may be

touched, pinched, or even cauterized without his experiencing the slightest sensation, and if the experiment be performed on a part of the body removed from observation, he may remain in perfect ignorance of what has been done to him at such a time. In a less intense form the sensibility is merely impaired: the individual feels external impressions, but not as quickly or as acutely as he is accustomed to do. Sometimes, instead of being impaired, the sensibility is altered in a remarkable way; the patient has an unusual feeling of chilliness, or of heat, or of pricking in the part, instead of the natural sensation he is accustomed to. All these varieties may be taken to represent more or less distinctly various states of human character. In the utter incapacity of doing any kind of good, and in the complete insensibility of the natural mind, we have a perfect antitype of the more developed forms of paralysis. In the failings of really good men, we have an illustration of the minor degrees of the same state. Thus we find one man, owing to some peculiar infirmity, continually halting in his Christian walk, and exposing himself and the profession that he makes, to unpleasant observation and to severe remarks. Another, whose step is more steady than the last, preserves a constrained attitude and an awkward appearance. A third, from whom we expect a ready response to every

appeal made in behalf of what is good, seems not to feel the importance of the claim, and meets us coldly and hesitatingly. A fourth appears to have had his natural sensibility somewhat perverted: impressions that ought to excite in his mind joy, and gratitude, and humility, give rise unexpectedly to resentment, dislike and aversion.

There are several other points connected with disease which it would be both interesting and instructive to consider in the present light, were it judicious to extend the present chapter to a greater length, but there is one point in particular to which we are anxious to direct attention before closing, and that is, those latent diseases which have been so often alluded to. A man who is labouring under any ordinary complaint is affected in a way that renders the existence of that complaint obvious, not only to himself but to others also. But we have seen in the cases to which we refer, that it is possible for a man to be seriously ill and yet not be aware of his condition. Even his most intimate friends may have no conception of his real state. Thus, a man may have a large aneurism concealed in his chest or abdomen, without its producing the slightest symptom to render him conscious of the danger in which he is placed. Such a man, though apparently in perfect health, is really walking on the threshold of the grave: the least exertion,

the slightest injury, under such circumstances, would be instantly fatal. Now this appears to be precisely the condition of many professing Christians. They are sick, but they are not aware of it. The propriety of their external demeanour deceives the observers into a mistaken estimate of their real character: and lulls their own conscience to sleep, with the idea of sound spiritual health. There may be strict moral integrity, high and honourable feeling, great amiability of disposition, and singular exactness in the performance of religious duties, while there is much that is wrong in the person's spiritual state; a deep and deadly disease may be gnawing at his vitals, notwithstanding these symptoms of robust health. The florid cheek, and the sparkling eye, and the consciousness of activity, are often associated with a state of the system very far from what is safe: and just in the same way, a man may have much peace of mind, be thoroughly satisfied with himself, and be conscious of no particular crime, who is at the same time labouring under a deep and fatal delusion as to his real state in the sight of God.

CHAPTER XII.

OF THE CONDUCT OF THE PHYSICIAN AS ILLUSTRATING,
IN SOME MEASURE, THE DEALINGS OF GOD WITH HIS
CREATURES.

The providential dealings of God towards his rational creatures, when considered in their individual application to particular persons, are often extremely perplexing. One man is seen to be deeply tried in the furnace of affliction, while another is permitted to enjoy uninterrupted health and prosperity: and yet, on examining their character and conduct, so far as human observation can extend, it is impossible to discover a satisfactory reason for the difference in their lot. The mystery that obscures this subject has not been suffered to envelop it without reason. It is evidently calculated to teach man submission to the divine sovereignty, and to exercise his faith in the wisdom and goodness of the divine appointments. Were we in all cases to see distinctly the reasons that actuate the divine Being in reference to these dispensations, there would not be any scope for the exercise of these Christian virtues. We should in that case submit to His appointments because they commend themselves to our approval, not because we felt

and acknowledge His right over us as our Creator. Such a state would evidently be incompatible with the very essence of authority. To guard against the occurrence of these evils, God has very properly taken care to secure that our submission to His will shall be unconditional and complete. But the very obscurity which He has thus in a manner been compelled to use to effect this result, is attended with a corresponding disadvantage. It leads men who are not rightly informed as to the divine character, to question the propriety of His proceedings, and to draw wrong inferences as to His motives and government. For this reason it appears to be a matter of some importance to bring forward every thing calculated to correct these false impressions, and to clear up the difficulties that a superficial examination of God's providential dealings may possibly produce. A conviction of the importance of this object has led us to think that it would be desirable to direct attention for a few moments to the conduct of the physician, in his intercourse with his patients, as calculated in some measure to illustrate and explain the principles upon which God is pleased to act in His dealings towards men.

When a medical man is called in to visit a patient, his first care is, to make himself as thoroughly acquainted with the nature of the disease, under which the patient happens to be

labouring, as he possibly can: and for this purpose he institutes a most searching examination into all the symptoms that are complained of: and asks for such information, connected with the origin and history of the disorder, as he thinks to be necessary. When he has succeeded in solving this problem to his own satisfaction, he proceeds to direct the treatment that his judgment and experience point out to be suitable to the malady that he has to deal with. He does not, generally at least, begin by telling the patient or his friends what is the particular ailment that he thinks the patient is afflicted with; neither does he explain to them what is the necessity for the particular remedies he has thought proper to prescribe, nor the manner in which they may be expected to produce their effect. That would be to take the patient into consultation, and to divide with him the responsibility that properly attaches to his office. Such a course, though occasionally followed, is seldom in practice found to answer. Most persons, notwithstanding their natural curiosity to learn the nature of their ailment, and the kind of remedies that are ordered for their relief, are too ignorant of the structure of the human frame, and of the laws of vital action, to be capable of receiving information of a satisfactory kind upon these points. Even when the patient happens to be himself a physician, though the

foregoing remark does not apply to him, yet experience proves that it is desirable to conceal, as much as possible, the views that the medical attendant has formed of his case. The very fact of communicating a full and candid statement upon these points is attended with this disadvantage, that it sets the patient to inquire in his own mind whether the physician may not possibly be mistaken? Whether he has not overlooked some symptoms which, if duly considered, would have led him to a different conclusion? And other matters of a similar kind which, by unsettling his mind, must have an obvious tendency to shake his confidence in the accuracy of his opinion, and so to render his compliance with the course of treatment directed hesitating and unsatisfactory. Seldom, indeed, is it that any person, however well informed he may be, or however strong his judgment, is capable of forming a correct opinion in his own case. His feelings, his apprehensions, his fancies creep in unconsciously to disturb his judgment, and to interfere with the operation of the remedies which are used for his relief. A knowledge of this circumstance will account for many things that are habitually practised in the art of therapeutics, but the precise utility of which is, perhaps, not duly appreciated. For example, the writing of prescriptions in a dead instead of a living language; the use of curious and

technical symbols, which possess an air of mystery, in place of the figures and terms in ordinary use, to express the quantities of drugs that are directed in the prescriptions; the invention of new and scientific names for common diseases, instead of the older and more familiar appellations, are all only so may efforts to conceal matters which it is not thought desirable for the patient to be acquainted with. The great success of empirical pretenders to medical skill, a success too notorious to be questioned, depends principally upon the care which they take to conceal effectually from every one, but especially from the party immediately concerned, the nature and composition of the remedies they employ. Now, if it be a matter of importance, in the treatment of ordinary disease, to conceal from the patient the course that is necessary to be pursued for his recovery, and that it is so, is established beyond the possibility of doubt, can it be a matter of surprise, that the great Physician, in dealing with a more delicate and dangerous state of things, should find it necessary to adopt a similar reserve, in reference to the remedies he chooses to employ, and to the necessity for their adoption? And if the experience of every-day life shows us that we can be induced, unreservedly, to place confidence in a fellow creature, who is frail and fallible like ourselves, so as to follow his prescrip-

tions, even when thus leading us in the dark, how much more readily ought we to entrust the whole management of our concerns to Him, who alone is competent to form a correct opinion of our condition, and who is at the same time

“Too wise to err, too good to be unkind.”

Still further: a physician, when consulted about a case, particularly if it be one of any danger, does not hesitate to prescribe any remedies he may think necessary for his patient's benefit, though they may happen to be bitter to the taste or severe in their operation. What would be thought of a medical man neglecting to order a valuable medicine that he knew was exactly suited to his patient's disorder, because he was unwilling to expose himself to the charge of unkindness, from its disagreeable smell or taste? Would we look upon such a man as a person of sound judgment or of real benevolence? Would we not rather conclude that he was of a weak mind, ignorant of the principles of true humanity, and destitute of every feeling that was really great and good? Ought he not, impressed with the responsibility of his position, to lay aside every personal consideration, and even to risk the forfeiture of his patient's friendship, were such a condition necessary to the performance of his duty, to secure, as far as lies in his power, the object he has in view, under the

confident expectation, that though his conduct may be impugned for a time, and his motives mistaken or assailed, yet in the end an unbiassed verdict of approbation would be pronounced in his favour? Now, if this be true in reference to the unpalatable drugs, and painful treatment of an ordinary physician, with how much greater force does the reasoning apply to the dealings of God? True, his dispensations are often sufficiently severe, but then we may be satisfied that He sees them to be necessary; and that no other plan of treatment would be exactly suited to the circumstances of the case. He tells us himself, "that He doth not willingly afflict nor grieve the children of men."—Lam. iii. 33. His wisdom, doubtless, when he sends the rod, perceives that such a course is absolutely required, and in that case it would be inconsistent with His goodness to withhold it.

Let us look a little further and consider a skilful surgeon when engaged in some capital operation. With what a firm hold does he grasp the amputating knife, and with what steadiness of purpose does he commence the harrowing work. With unrelenting boldness he cuts through muscles, and nerves, and vessels, unmoved by the cries of his unhappy victim, and unaffected by the thought of all the pain that he is thus at each moment inflicting. He hears nothing, he sees nothing but the one great object; and with cold calculating

precision he pursues the operation, step by step, till the whole is complete: one would think, were we to judge by the stolid indifference of his conduct as thus exhibited, that he had no feeling, yet, under all this seeming unconcern, there may lurk as kind a heart as ever beat, and as keen a sentiment of sympathy as it is possible to conceive: but the exhibition of these feelings would be altogether misplaced at such a season: it would only defeat the great object he has in view, by rendering him incapable of executing successfully that important and arduous, but disagreeable work that is so essential to the future comfort and welfare of his patient. In the practice of this noble profession it is absolutely necessary for the surgeon to subdue his own feelings, if he would really alleviate those of others, and though for the time his character may be mistaken, and he may be calumniated as a cruel unfeeling man, yet the consciousness of the nature of the work in which he is engaged, and the conviction that he will ultimately be the means of conferring substantial benefit on a fellow-creature, may well sustain his spirit under such a trial, should it come, until at last he is enabled to reap the rich reward of his exertions, in seeing his patient's life prolonged, his pain alleviated, or his health restored.

Now, if this be so in the case of a mere surgeon—and that it is so, almost invariably, will

scarcely be questioned—is any man justified in supposing that God is less tender, or less kind in his dealings with his creatures, than a mere man is found to be? True, he may for a long time disregard their most pitiful cries—he may keep them for an unusually long period in the operating theatre, and may expose them to severe and painful amputations—but does this prove that he is hard-hearted—and unfaithful or unjust? May not all this be essentially necessary for their future welfare? If he sees some malignant growth on some part of their spiritual frame, would he be justified in leaving it there till the cancer had preyed upon the vitals, and destroyed the hope of ultimate recovery? Would it be real kindness to pay more attention to their present ease than to their everlasting interests? In all He does we may be sure He has an eye to the future advantage of His creatures: in effect, He says to each of them at such a time, “what I do thou knowest not now, but thou shalt know hereafter.” And the conviction of this truth may well satisfy our minds of the propriety of His dispensations, even when we cannot discover the necessity for their occurrence.

Take another instance that illustrates what many persons have observed, and that often appears unaccountable. When a surgeon is called in to examine a deep-seated ulcer, which has

been rankling in the part for a long time, and has resisted a variety of treatment, it is not uncommon to find him, as the first step towards recovery—not merely probing it to ascertain its depth—which of itself often causes a great deal of pain—but cutting the edges freely, and enlarging it to enable the pent-up matter to escape, that the healing process may begin at the very bottom, and become solid and enduring. At first sight it seems a strange way, to increase a wound with a view to its removal, yet both reason and experience approve of the proceeding. God sometimes acts in a similar way in His providences also. Occasionally, when about to visit a poor sinner with the riches of His grace, we find Him, instead of applying a healing salve to the wound that His providence has inflicted, and which would have only superficially covered over the sore, while it might have continued to fester underneath, enlarging the wound and keeping it open for some time, that it may be more effectually healed, under His judicious management, by a complete and radical cure. Men who do not understand the ways of God, or even the analogy of nature, are surprised that the first steps in a plan of mercy should be a series of severe and trying wounds that cut the carnal nature in its most tender part, and cause these

sores of our corruption to bleed, and to discharge more freely than they did before.

Sometimes, again, when the patient has the premonitory signs of some dangerous disease, such as apoplexy or water on the brain, to which he has a predisposition, either constitutional or acquired, it becomes necessary to insert an issue or seton in some part of the system, with the view of warding off the threatened danger. The remedy, it is needless to say, is irksome, exhausting, and severe. It requires, moreover, to be continued for a long period to be of any use. But then the endurance of it is the means very frequently of warding off an evil of much greater magnitude. How few persons, capable of forming a just comparison between the two inconveniences, would hesitate as to which they would prefer to submit to. And may not many of the trials and privations which the Christian is compelled to bear, partake more or less of the nature of an issue in its present effects, and in its intended benefits. Go where he will, he cannot but feel more or less acutely, whatever be its nature, that it is present with him. He cannot move but it pinches him. He cannot shake it off. He cannot forget it, or become altogether accustomed to its inconvenience. Yet all the while it may be the means of defending him from some other evil of a greater

magnitude. If he is stripped of affluence to which he was accustomed, and pinched with want or with a restricted income, may it not be to guard him against the sin of covetousness, or the ensnaring fascinations of the world? When the partner of his bosom is snatched away, and he is left to pine in solitary sorrow, during the remaining years of his appointed pilgrimage, may it not be to guard him against the idolatry of the affections? Even the loss of character, the dearest of all possessions to a sensitive mind, inflicting, as it must do, an irreparable injury upon his peace, may yet be made the means of preserving him from pride and other dangers of an equally hazardous nature.

The only other point to which we think it necessary to allude is the necessity that occasionally exists for the removal of a gangrened limb, in order to preserve the life of the patient. Were not amputation restored to, the spreading of the mortification upwards would soon extinguish the vital spark. How willing, under such circumstances, are most men to part with a portion of their body to secure the remainder. And when this has been done, and the operation has proved successful, they are necessarily obliged for the rest of their lives to put up with many inconveniences to which they were previously unaccustomed. Everywhere, and at all times,

they bear about with them indisputable proofs of the deadly malady with which they were attacked, and of the trying hour in which their deliverance was effected. And does not God often find it necessary to amputate our spiritual frames, to cut off the putrid affections of a carnal nature, that the corroding process may extend no farther, but that we may be left, though mutilated, with some measure of real life. The blow, whatever its nature, may have the effect of making us hang down our heads like a bulrush, and of keeping us humble for the rest of our lives, but if it be the means of delivering us from any cherished lust, or any improper ambition, if it stimulate us to use our remaining talents with a single eye to the glory of God, and with greater devotedness to His service, we shall have reason to say in this respect as in others, it was good for me that I was afflicted, for before I was afflicted I went astray, but now have I kept thy law.

CONCLUSION.

In the statements which have been brought forward in the foregoing pages, we are far from wishing it to be understood that we have by any means exhausted the subject, or that all the useful purposes that sickness is fitted to accomplish in the moral government of the world have been pointed out. Many illustrations of the argument have been purposely omitted, both because it appeared unnecessary to multiply examples of the same general principle, and also because the instances themselves were thought to be too professional in their details to be acceptable to the generality of readers. It is also to be supposed, notwithstanding the care that has been taken to make the work as complete as possible, that some points have escaped notice that a closer and more careful examination would have brought to light. Be this as it may, we think that sufficient has been adduced to establish the position with which we started, and to prove that the occurrence of disease is due to the direct appointment of God himself. We think it must also be conceded that such an opinion, far from being reprehensible, as derogatory to the character of the

Divine Being, is in the highest degree proper to be entertained. Let us briefly recapitulate a few of the arguments that justify this conclusion.

In the first place, we have seen that sickness is fitted to exercise a beneficial influence on society at large, by uniting the scattered members of the family of man into one common brotherhood. Is not this an object infinitely worthy of the great Ruler of the universe? Ought He not to be supposed anxious to promote every thing which is in the slightest degree calculated to secure the prevalence of kind feelings among His creatures, and the manifestation of mutual good-will and affection towards one another? The charities of life, like delicate flowers, require a congenial soil and a favourable climate to germinate in, otherwise they will never grow, or blossom, or bear fruit. How miserable would be the condition of this world, were the seeds that produce such blessed plants to lie dormant in the depths of the human breast, or to be choked as they spring up, by the various forms of selfishness, that, like so many weeds which flourish though neglected, would prevent it arriving at maturity! If the natural senses can derive enjoyment from the beauty and perfume of a few flowers in a well-cultivated garden, how much more are the moral perceptions of our nature capable of deriving gratification from unobtrusive acts of kindness,

delicately performed towards deserving objects of distress?

In the second place, we have seen that it is equally capable of exercising a beneficial influence upon the character of individuals. It impresses them, from time to time, with a sense of the uncertainty of life, and stimulates them to make suitable preparation for the great change that awaits them. While fatal diseases tend to produce this result, by carrying the conviction of human mortality with terrible impressiveness to the mind, the slighter forms of indisposition are no less calculated to be useful, by the leisure they afford for serious reflection during the period of convalescence, and by the opportunities of amendment that recovery brings with it. We have seen that human nature is so constituted as to require some suitable counterpoise to the preponderating influence that present and passing interests possess over those which are less obvious to the senses, but which are intrinsically more important; and we have seen that in the circumstances of disease, as it exists in the world, a most admirably adapted counterpoise is provided. Can we hesitate for a moment to admit that the provision in question has proceeded from the hand of Him who is intimately cognizant of our whole constitution, and who is so deeply interested in our welfare?

In the third place, we have seen that the very element of suffering—which, at first view, appears to be fatal to the idea, that a Being of pure and perfect benevolence, such as God is, can be really the author of disease, in which it prevails to so large an extent—is found, when it comes to be closely investigated, to be one of the strongest proofs that can be adduced in support of the opinion. Contrary to what is generally believed, pain performs a most useful part in the progress of indisposition. It informs us in a simple and striking manner of the actual commencement of an attack of illness. It points clearly and emphatically to the precise seat of the disorder. It awakens us to a sense of our present danger, and puts us on our guard against future mischiefs. It stimulates us to employ the proper means for our recovery, and it prevents our doing any thing that might interfere with the process of cure. It is the great means of securing for us all those benefits of a moral kind that the whole dispensation is intended to accomplish. Is there any thing in all this inconsistent with the idea of benevolence? Do we not approve of the conduct of a man who saves a drowning child by a vigorous, determined effort, though the firm hold he takes of the body may be productive of some temporary pain? And do we not equally condemn the man, were such a person to be found,

who, in his anxiety to avoid inflicting the slightest inconvenience on the child, should hold him so loosely as to let him go at the very moment of danger, and consign him to a watery grave? Every one will admit that an enlightened spirit of humanity would discard at such a time all thoughts of the trifling inconvenience of the moment, provided the great end of procuring the safety of the child were ultimately secured. Besides, even the pain that forms so necessary and so useful a part of ordinary illness, is not suffered to reign paramount throughout the entire course of its progress: everywhere there are discernible special provisions to mitigate its severity and to shorten its continuance, so as to secure that it shall neither exceed in amount, nor prevail for a longer period, than is absolutely necessary for the purpose it is intended to serve.

Lastly, we have seen that the phenomena of disease are calculated to teach us many useful lessons concerning spiritual truth, of which we are naturally ignorant, but which it is most important for us to be acquainted with; while the whole history of this part of nature serves as a sort of mirror to reflect the features of the Divine character, and to exhibit to us His peculiar attributes and perfections. Can any one, of the least candor, hesitate for a moment to acknowledge, that a system of Providence which secures so

many and such various useful ends, must be really the result of infinite wisdom and goodness?

Assuming, then, that we have succeeded in establishing the conclusion at which we wished to arrive, it is not difficult to discover what practical influence it ought to exert upon every well-regulated mind. Most persons are in the habit of looking upon a protracted and severe illness as a calamity, and exhibit more or less impatience during its continuance. The spirit chafes under the irritation of a yoke which it is unwilling to bear quietly, but which it is unable to shake off. They think themselves deserving of a great deal of credit if they bear its inconvenience with ordinary submission, and do not break out into open murmurings. Is this the conduct that ought to characterize an intelligent creature, duly informed of his condition, and thoroughly impressed with a conviction of the truth we have been contending for? Would not a right view of the matter lead men to regard the visitation of sickness rather as a blessing in disguise, which was to be received with gratitude and improved with diligence? Every sick-room may be considered as an audience-chamber of the Great King, where He condescends to reveal himself to the meanest of His creatures. In His presence a solemn seriousness should prevail, every murmur should be hushed, and the whole attention riveted in

humble and eager readiness to listen to His will. The dignity of the great Being, who is then manifestly near at hand, the importance of the occasion, and above all, the gracious purpose of the visit, unite in demanding this conduct at our hands. If an earthly monarch were at any time to lay aside the distance that habitually separates him from the ordinary classes of his subjects, and were to pay them a familiar visit, for the purpose of personally inspecting their affairs, and conferring on each of them some appropriate benefit, would not the condescension of the act, and the gracious intention it exhibited, secure for him from every one a cordial and enthusiastic welcome? It is true that the visit itself might be productive of much pain to many parties. The exposure of some domestic circumstances, and the intrusion of so distinguished a visitor at a time when they were unprepared to receive him, might be any thing but agreeable; but then the motive that so obviously prompted him to take such an interest in their welfare, and the benefits it produced, would silence every objection, and make them deeply thankful that they were placed under the dominion of so great and good a king. And ought not similar feelings to be produced in our minds by an act of gracious condescension on the part of God, which infinitely surpasses in extent and mercy every instance of

the kind among earthly sovereigns that it is possible to conceive? The true reason of the difference of feeling produced in the two cases is our ignorance of the character of God, and of the principles that regulate His dealings with us. Were these better known, not only would there be exhibited less dissatisfaction at His providential dealings, but the very circumstances which now give rise to murmurings and uneasiness, would then be the cause of our deepest thankfulness and gratitude.

It is true, that there are many things in this system which we cannot fully comprehend. We do not see the why and the wherefore of their taking place. It is also true, that there are some things which we are apt to suppose, judging by the dim twilight of human reason, would be better avoided. We are prone to think that God might have so ordered matters, had such been His pleasure, as to secure all the benefits that sickness is calculated to produce, without any of the suffering that we see at present attending it. But then, it must be recollected, that man is not a competent judge to determine such a question. The field is too vast for his puny mind to travel over: and it becomes him rather to argue analogically from what he knows to what he does not know, and to infer that as every thing is wisely and beneficially ordered, so far as he can see, the

things which are beyond his comprehension are ordered with equal wisdom and beneficence. It becomes us also to remember that the difficulties which present themselves to our notice in the present subject are equally apparent in other portions of the Creator's works. How many things are there in the material world, the uses of which we do not understand? Take the comets for example—those airy travelers in celestial space—what purpose in the economy of nature do they serve? Conjecture may suggest various replies to the question, but candor must compel us to acknowledge that we are yet ignorant of their real use. How many other things are there in nature, with whose use we are acquainted, but which appear to us productive of unnecessary evil? Such, for instance, are the terrific tempests that purify the atmosphere, but whose fury deals out death and destruction in their course. May we not say with equal justice, that if these things be of God, He could have so arranged matters as to have given us all the advantages without any of the disadvantages. The same remark may be made in reference to the dealings of God in the kingdom of grace. How much in them is incomprehensible to man? How much appears liable to objection? The true answer to all such observations is, "shall not the Judge of all the earth do right?" It is impossible for a finite being

fully to comprehend an infinite: and it is important for us to remember, that much of the difficulty of these matters arises from our being at present ignorant of many things which are necessary to be known before we shall be competent to arrive at a just and proper conclusion.

The attempt to fathom these mysteries, may be compared to a man looking into the ocean, whose waters may be as clear as crystal throughout their entire extent, but which are only transparent at the surface: the deeper we try to peer into the depths of the abyss, the darker and more indistinct does our vision become, not from any difference in the quality of the water, but simply from the circumstance that we happen to occupy a position unfavourable for the purpose of seeing to the bottom. May we not add, in the language of Job, "Lo, these are parts of his ways, but how little a portion is heard of him; but the thunder of His power who can understand."

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