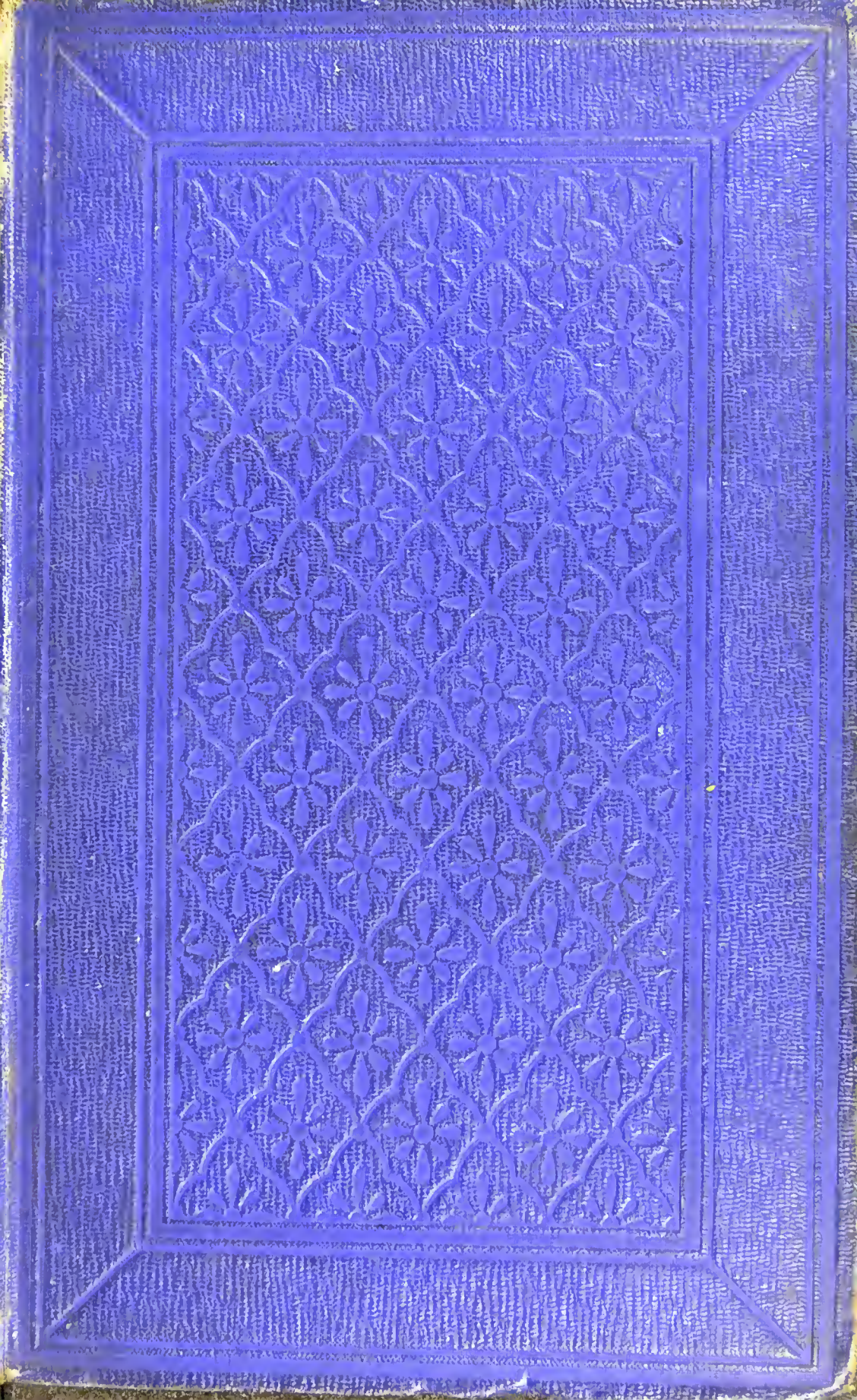


OF

NATURE AND ART

IN THE

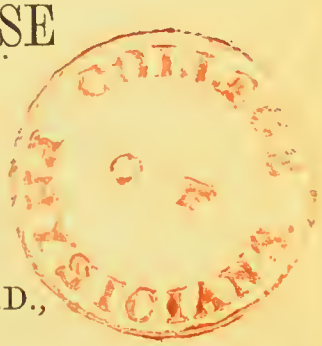
CURE OF DISEASE.

OF

NATURE AND ART

IN THE

CURE OF DISEASE



BY

SIR JOHN FORBES, M.D.,

D.C.L. (OXON), F.R.S.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, PHYSICIAN TO THE QUEEN'S HOUSEHOLD, ETC., ETC.

"— Quibusdam saltem profutura Tironibus; quos ut per viarum tutissimarum compendia ad saluberrimæ artis deducam cognitionem, allaborandum præcipuè duxi; hos docere, his scribere, animus erat, non Eruditis non Doctoribus; quî enim tam sim vanus, ut erudire eruditos ipse minime eruditus præsumam?

Elias Camerarius.

LONDON:

JOHN CHURCHILL, NEW BURLINGTON STREET.

MDCCCLVII.

J. E. ADLARD, PRINTER, BARTHOLOMEW CLOSE.

ADVERTISEMENT.

The manuscript from which this small volume is extracted has lain by me for several years, and is still incomplete. The present portion of it is now published separately, because I believe it will be useful even in its actual fragmentary form, and because advancing years leave me but slight hopes of being ever able to finish the work according to the original plan. It is thought that the general views here given will enable such junior practitioners as may study them, to apply them, of their own accord, to the improvement of their treatment of diseases; by strengthening their confidence in Nature's powers, and by mitigating, in their hands, the evils of Polypharmacy and of that meddlesome and per-

turbative Practice still so predominant in this country.

It is my intention, on some future occasion, to publish another volume of the same size as the present, consisting of the original article "On Homœopathy, Allopathy, and Young Physic," written by me in 1845; together with a selection from the correspondence elicited by it, at the time, from my medical friends. The first of these papers will be found in No. XLI of the 'British and Foreign Medical Review' (then edited by me), and the remainder in the three subsequent numbers of the same journal. This additional volume, though it will afford considerable support to the author's views as promulgated in the present work, will still leave the subject in a very incomplete state.

J. F.

London; *February* 1*st*, 1857.

CONTENTS.

OF

NATURE AND ART

IN THE

CURE OF DISEASE.

CHAPTER I.

INTRODUCTORY.

THE AUTHOR'S REASONS FOR WRITING AND PUBLISHING THIS VOLUME.

I. All well-informed and experieneed members of the medieal profession are painfully aware of the great imperfeetions of their Art, and of its inadequaey to fulfil, in a satisfaetory manner, mueh that it professes and undertakes to aeeomplish. It must be admitted, however, at the same time, that this reeognition of its defeets is aeeompanied by an ardent desire, and by ineessant efforts, on the part of its professors, to lessen and remove them. It may, indeed, be truly said of the professors of the medieal art generally, that a lively zeal for the

promotion of every kind of knowledge on which it rests, is one of the most striking features of their character. Few are contented to practise Medicine as a mere art; and still fewer to practise it as an art that has reached the point at which it can be regarded as stationary, much less as perfect.

The consequence is, that, amid the universal striving for improvement, the practice of the medical art is perpetually changing, sometimes for the better, sometimes for the worse; though, upon the whole, advance, not retrogression, must be admitted as the general result of the movement. Comparatively insignificant as this advance may seem, when measured by the period of the labours and the number of the labourers, it is something to have to record a positive gain, however small, in a field of such uncertainty; and it is impossible to doubt that the same causes, which are becoming, year after year, still more influential, will, at some future day, lead to results of infinitely greater value. Such results, as in the case of those already attained, can only be expected to flow from the co-operation of innumerable labourers, scattered, probably, over long tracts of time, who must be content to add to the

general stoek, without much prominence of individual handiwork.

It is as an old and zealous, though humble labourer in this noble field, that I now come forward to east the mite, which I think I possess, into the common treasury of physic, and for which I expect and desire no better fortune, than that it may add something, however small, to the general mass of the true and the good therein contained.

Having been now actively engaged in the practice of Medicine for the long period of fifty years, and having derived therefrom much of the prosperity and happiness that have been my fortunate lot in life, I feel that my profession has claims on me for much more than I have hitherto been able to give it; and as, at my time of life, and in my present state of health, I have no right to look forward to the acquisition of further knowledge in the same field, it is incumbent on me to communicate now any information I may possess, if I am to communicate it at all. In doing so, I cannot help being impressed with the feeling of solemnity which naturally accompanies any act that is to be the last of its kind. And, in this mood, I would fain regard

the present work in the light of A Legacy to my Younger Brethren, which, slight as it is, may not be found altogether unworthy of their acceptance. I would, indeed, bequeath it in full confidence of its value, if I might reekon on its being received in the same way as the legaey of the Pot of Gold, in the fable, was received by the rustic testator's sons. If my book—though, like the old man's vineyard, really eontaining in itself no gold—should only lead to the zealous eultivation of the subjeet of which it treats, the result eould not fail to be of inestimable value to the eultivators. For, on the profounder, more eritieal, and purer study of Nature, as manifested in disease, rest, in my judgment, the best hopes of improvement in the medieal art; and to this study the spirit of my book may, at least, lead the way and give the initiative, if its aetual eontents are found of lesser importanee.

In a very early stage of my medieal experience, I became impressed with the eonviction that the most fruitful source of false views, both in pathology and practice, prevalent in the profession, originated in ignoranee of the natural laws governing diseases; in other words, in ignoranee of the Natural History of Diseases: and all my subsequent

observation, through a long series of years, has only tended to strengthen the impression.

It is true that, since the period referred to, great advances have been made in some important points of the history of diseases, as in their structural pathology or morbid anatomy, as well as in many of their physiological relations ; so that it must be admitted that well-informed practitioners of the present day, have a much deeper insight into the exact character of many of the diseases treated by them, than was possessed by their predecessors. It is very remarkable, however, that in regard to one most important part of the history of diseases, that, namely, of their natural course and event, infinitely less progress has been made ; insomuch that it may now be affirmed that the practitioners of the present day are, speaking generally, almost as uninformed in this particular as were their predecessors fifty or a hundred years back.

Such has ever been the want of trust in Nature, and the over-trust in Art prevalent among the members of the medical profession, that the field of natural observation has been, to a great extent, hidden from them ; hidden either actually from their eyes, or virtually from their apprehension. The con-

stant interference of Art, in the form of medical treatment, with the normal processes of disease, has not only had the frequent effect of distorting them in reality, but, even when it failed to do so, has created the belief that *it did so;* leading, in either case, to an inference equally wrong;—the false picture, in the one instance, being supposed to be true; the true picture in the other being supposed to be false.

With this impression on their minds, it was scarcely possible for practitioners not to form a false estimate alike of the power of Nature and of the power of Art, in modifying and curing diseases; underrating the former in the same proportion as they exaggerated the latter. And the consequence has been that diseases have been treated mainly as if Nature had little or nothing to do in their cure, and Art almost everything. A principle so false, adopted as the ground of action, could not fail to be the source of the gravest doctrinal errors, with practical results of the most deplorable character.

The great object of the present volume is to endeavour to expose these misconceptions and misappreciations, and to substitute in their place juster views of the animal economy in disease, and juster views of Art's relations towards it. If I succeed in

effecting this object, even in a slight degree, so as to impress the minds of some of the younger and less prejudiced members of the profession with the truth and importance of the prineiples advoeated, I ean entertain no doubt that a great good will thereby have been gained for practical medicine.

The first and most essential step to improvement in any department of human action, or in any practical art, is the exposure of fundamental crrors. And if, in such cases, the true docs not immediately take the plaee of the false, it is sure to do so eventually, even although no indication of the fitting substitute accompany the exploded error. In the present case, however, it is believed that the mere exhibition of the evil must lead to its abandonment, and its abandonment be followed, as a matter of course, by the substitution of something better.

At any rate, and at all events, it is the duty of an honest mind, on attaining conviction of an error, to abandon and to expose it, even although the truth that is sure to succeed it, may, as yct, be seen only darkly, or be entirely hidden.

II. Besides the objcct prineipally contemplated in the prcsent undertaking,—that, namely, of con-

veying to the junior members of the medical profession generally, juster views of the relations of Nature and Art to diseases,—another object, only inferior to this in practical importance, has been constantly present to the writer's mind in carrying it out. This has been to prepare a work which, while fulfilling its strictly professional aim, should also be calculated to convey to educated and well-instructed persons of all classes, such information respecting the real nature of diseases and the true characters and powers of the medical art, as they would be capable of comprehending and appreciating.

The extreme ignorance of the public generally in these matters, not excepting even the literary and scientific classes, is a fact admitted by all who are capable of judging on the subject, and is, indeed, manifested by evidence of the most abundant and notorious kind, both public and private. The falsest and most absurd notions are entertained respecting the whole subject of the morbid conditions of the animal economy, and respecting the means deemed capable of modifying and removing them.

If this ignorance of a science and art, of which there exist established professors and practitioners,

were strictly confined in its effects to the individual minds lodging it, and were, like our ignorance in regard to many of the other practical arts of life, simply passive, there might be a question whether it were of much or of any importance that it should be removed. What greater necessity, it may be said, is there for men in general being enlightened in the science and art of the physician, than in the science and art of the shoemaker or tailor, of the coachbuilder, saddler, or of any of the other handicrafts subservient to his comfort and happiness?

The distinction between these arts and the medical art, in their relations with the public, is this—that whereas, in the case of the former, we are contented to let the artists take their own way without any interference on our part, in the latter (Medicine) we are perpetually interfering, actually or virtually, directly or indirectly; so that it becomes a matter of vital importance that the interference, if it does take place, should be guided by knowledge not by ignorance; or, what would be the preferable result of knowledge, that the interference should be altogether foregone.

The injurious interference here chiefly referred to

as the result of ignorance of the nature of diseases and of the medical art, is not an active and direct interference with the proceedings of the physician, under the pretence of knowledge of what is for the patient's good; as such interference is only had recourse to in rare instances and by very unreasonable persons, and would only be tolerated by those who are unworthy of the medical office. What is here complained of and deprecated is the indirect influence often exercised over the conduct and practice of the physician, through the anxieties, wishes, hopes, fears, or other natural emotions of the patient or his friends, which a truer knowledge would often enable them to suppress or keep within more legitimate bounds. It is often impossible for the most scientific and honest physician to resist the influence of such causes, though he may know that some of his proceedings, the result of this influence, are hardly such as can be justified either by considerations of science or by the more rigid rules of professional propriety.

I am aware that the greatest enlightenment of the public mind could not altogether destroy this class of influences, but it would undoubtedly greatly lessen their number and force.

The following are a few of the many ways in which the ignorance of the public, in regard to several parts of medicine which they are competent to understand, influences injuriously the conduct of physicians:

1. Ignorance of the natural course and progress of diseases which are essentially slow and not to be altered by any artificial means, often leads the friends of the patient to be urgent with the medical attendant to employ more powerful measures, or at least to change the means used, to give more frequent or more powerful doses, &c., &c.

2. Ignorance of the power of Nature to cure diseases, and an undue estimate of the power of medicines to do so, sometimes almost compel practitioners to prescribe remedies when they are either useless or injurious.

3. The same ignorance not seldom occasions dissatisfaction with, and loss of confidence in, those practitioners who, from conscientious motives, and on the justest grounds of Art, refrain from having recourse to measures of undue activity, or from prescribing medicines unnecessarily; and leads to the countenance and employment of men who have obtained the reputation of greater activity and bold-

ness, through their very ignoranee of the true eharaeter and requirements of their art.

4. It is the same state of mind that leads the publie generally to give ear to the most ridieulous promises of charlatans; also to run after the professors and praetisers of doetrines utterly absurd and useless, as in the instanee of Homœopathy and Mesmerism, or dangerous, exeept in the proper eases, as in the instanee of Hydropathy.

5. Finally it is the same ignoranee of Nature and her proeeedings that often forees medieal men to multiply their visits and their preseriptions, to an extent not simply unneeessary, but really injurious to the patient, as eould be easily shown.

If, for reasons of this kind, I have, in framing my work, endeavoured to make it intelligible to the lay as to the medieal reader, I hope it will be found that I have not, in any degree, departed from the dignity of the professional style of eomposition, to adopt one suited to the level of the ignorant. I have written only for those who, from their edueation, ought to be eapable of understanding subjeets of ordinary seienee, when treated simply and with as little teehnieality as possible. These, happily, now

constitute a large class, and are spread so widely through every rank of society, as to enable them, by their expressed opinions, and still more by their observed practice, to influence the public mind generally.

It cannot be doubted that juster views of the nature of medical science and of medical art, if once prevalent among the lay public who are well informed, will, like all other knowledge, eventually descend to those who are not so; and thus the progress of rational Medicine will be facilitated, and the hands of those professors strengthened, who have the courage to advocate and practise their art conscientiously, however opposed to vulgar prepossessions and prejudices.

When laid open in its native truth and simplicity, Medicine will be found, like other arts and sciences, to possess nothing that is very mysterious or difficult of comprehension, nor anything that should prevent its principles, at least, from becoming one of the subjects of ordinary study with men who have received such an education as enables them, as amateurs, to derive profit and enjoyment from analogous studies, such as chemistry, physics, geology, and natural history in all its branches. To

sueh men, anatomy and physiology, and the prineiples of medieal seienee and of the medieal art, will be found to yield instruetion and amusement of the highest and best kind, to say nothing of the great advantage sueh knowledge must be to themselves and friends, not only in regard to the preservation of their health, but in regard also to their eonduet when afflieted with disease.

Even a moderate amount of knowledge of the general nature of diseases, and of the mode of operation and powers of the medieal art, will make a man a better patient; make him more eontent with the treatment preseribed, be it energetie or inert; and make him repose greater eonfidenee in his physician.

III. Having thus briefly set forth my reasons for writing this book, and some of the prineipal objeets I hope to attain by its publieation, I will now proeeed to give some aeeount of the plan followed in its eonstruetion, so that the reader may be prepared to enter on its perusal with a mind better fitted for understanding and profiting by it. I am the more anxious to give this preliminary explanation, beeause I am eonseious that the bearing of several of my

chapters on the great practical object of the work, will not, at first sight, seem always very pertinent or direct. When, however, the reader's mind is previously directed, in a particular manner, to it, it is hoped that there will be found no difficulty in grasping and preserving the clue which connects all the parts of the work in an unbroken series, one with another.

In setting about the perusal of the following chapters, then, the reader is requested to keep constantly in mind that the main object sought to be attained by the discussions contained in them, is to set in a clear light the great facts of the amount of power possessed by Nature and Art, respectively, to modify and cure diseases; or, rather (although it is hoped that the inquiry, as here instituted, will be found to be as impartially conducted as if the writer, in commencing it, had not been aware of the results to which it would lead) perhaps it will be at once more expedient and more accurate to state that the object of the work is not simply to exhibit, in an independent manner, the general fact of the respective and relative powers of Nature and Art in curing diseases, but to establish the more special fact that Nature possesses vastly greater powers

than Art in curing diseases, and, consequently, that its extent is beyond the common belief of the junior classes of medical men, and men in general.

The first half of the volume is devoted to the setting forth such simple but, it is hoped, accurate views of the nature, origin, causes, mode of formation, course, and termination of diseases, as will convey to every reader an intelligible notion of what diseases really are, and how they comport themselves when left undisturbed by any extrinsic artificial interference.

A careful and complete delineation of all the particulars here indicated would constitute what is properly termed THE NATURAL HISTORY OF DISEASES, which forms the only sure foundation of a scientific knowledge of the Medical Art. What is here attempted is a mere outline of the subject, sufficient, it is hoped, to make generally intelligible the principles on which the natural and artificial cure of diseases is effected, but totally inadequate to serve as a guide in actual practice. To attain this last object, it is necessary that every student of Medicine should possess, in regard to individual diseases, a minute knowledge of all the particulars here

merely indicated in a general and very superficial manner.

Although intended to convey information on all the points constituting the natural history of diseases, this first portion of my book must be understood to have a more special reference to their natural terminations, and particularly to the termination in health. Its main purpose, in fact, as already stated, is to show the completeness and great extent of this termination; in other words, to prove the immense powers possessed by Nature to cure diseases, of her own autocracy, and without any aid from Art.

It is only on the complete impregnation of the student's mind with this fundamental knowledge, that any hope of the growth of rational views in regard to the treatment of diseases can be based, or that the establishment of a medical art on philosophical principles can be looked for.

The Second half of the work attempts to do that for Art which the First attempts to do for Nature, viz., to exhibit the true character of the medical art, its exact relations to the natural conditions of diseases, and the extent of its powers to modify and cure them. As in the first portion the great result

of the investigation is the establishment of the fact of Nature's power to eure diseases in a degree far *beyond* the ordinary belief of the publie and the younger members of the profession, so, in this the sceond portion, the examination of the subjeet in its various aspeets leads to the establishment of the eorrelative fact of the power of Art to eure diseases being grcatly *below* the same standard of belief. It is as important, therefore, to the ready comprehcnsion of the meaning and objeet of these ehapters, that this partieular result—the derogation of Art—should be antieipated and entertained by the reader, in his progressive perusal of the text now referred to, as was the analogous result respeeting the aggrandisement of Nature in the former instance. In either ease it is not meant that the matter in question should be prejudged unfairly; but merely that the preseience of faets subsequently to be established, should give the reader a elearer insight into thc meaning and purport and bearings of the matters in the text, as they successively pass before him.

CHAPTER II.

INTRODUCTORY.

OF THE IGNORANCE EXISTING RESPECTING THE POWER OF NATURE TO CURE DISEASES.

If it be true, as I believe, that the doctrines respecting the power of Nature to cure diseases, promulgated in the present work, are at variance, as far at least as regards degree, with those entertained by many of our best-informed and most experienced medical men, and are at variance in every respect and in an extreme degree with those entertained by the majority of our junior and ordinary practitioners, it seems requisite that the grounds of so important a difference of opinion should be stated, and the difference itself accounted for, in order that the views here presented may find a more ready and impartial hearing.

It is very natural that doctrines greatly differing from those entertained by men in general, or by the

members of the elass to whieh the innovator belongs, should be reeeived with doubt and suspieion, more partieularly in eases where the means of arriving at a sound opinion seem to be not only easily aeeessible, but fully patent to all alike. The writer feels that he has no right to claim assent to his views, unless he ean show how men equally eompetent to judge as himself, and many of them with like experienee, have eome to entertain opinions whieh he believes to be so erroneous, on eommon matters of faet subjeeted to daily observation. It is hoped, however, that the explanations about to be offered will aeeount, in a satisfaetory manner, for the entertainment of sueh different, and, as the writer eonseientiously believes, sueh false notions, by many of his brethren, without any imputation being thereby east on their intelleetual eapaeity or on their judgment.

I. It is mueh less strange that the same erroneous views should be entertained by non-professional persons; still the extent of ignoranee prevalent among the better-edueated elasses seems, at first sight, extraordinary. It ean only be aeeounted for, by the eountenanee and support direetly or indireetly given to it by professional opinion.

Perhaps there is hardly anything in the whole range of ordinary every-day knowledge,—that is, knowledge with which every one is more or less conversant and familiar,—which is so little understood by men in general, as the real nature of the medical art, and its actual power in ministering to the relief and cure of diseases. Respecting this latter point, its *power*, the ignorance of the lay public is literally extreme. The belief commonly entertained is that, in the vast majority of the cases of disease in which the patient is restored to health, the principal if not the sole agent in this restoration is the *artificial treatment*, that is, the drugs and other remedies prescribed by the medical attendant. By such persons, Nature, or, in other words, the inherent powers of the animal economy, are either entirely ignored as having any share in the result, or their share in it is regarded as extremely slight and unimportant.

In acute diseases of short duration more particularly, as in many fevers and inflammations, the abatement of the severe symptoms which often ensues speedily after the administration of remedies, is invariably attributed to the active measures usually had recourse to in such cases: a conclusion

whieh, however false, ean hardly be wondered at under the eireumstanees. When the observer sees bleeding, blistering, vomiting, purging, and all the other heroie arms of Physie, brought into aetion against the disease, and with the avowed objeet of euring it; and when the disease is seen to abate or disappear within a short period after their employment; the inferenee seems inevitable that the artifieial treatment was the exelusive agent in effeeting the eure.

In ehronie diseases, espeeially those of long standing, the apparent demonstration of Art's powers is not so striking; but still, in the prevailing ignoranee of there being any other ageney to explain it, the result is as eonfidently set down to the treatment as in the other ease. So general, indeed, is this belief, and the eonfidenee in its validity so strong, that it is rarely shaken, even by the most untoward events. In the most obstinate and prolonged diseases, extending, it may be, over months or years, if the patient at length gets well, the medieal treatment still reeeives the eredit of the eure; and the physieian, if he has eontinued to preserve his patient's eonfidenee throughout, is sure to be lauded for his knowledge and skill, in having been able so long to make

Art hold its ground against so severe and obstinate a disease, and finally triumph over it.

When the disease proves fatal, it must needs be admitted by all, that medical treatment has failed in its main object of effecting a cure; but still it is not doubted even here that life has been prolonged and suffering mitigated, the disastrous result being set down as the consequence of a bad constitution, or of an intractable disease.

In cases of this kind, no doubt, the attending practitioner is often also freely blamed for his want of knowledge and skill; but it is only in rare cases where the powers of his art are inculpated. It is, indeed, the belief in the acknowledged greatness of the powers of his art, that seems, in the eyes of his accusers, to imply his condemnation: he failed not for want of available power, but for want of available knowledge to apply that power.

All this will be allowed to be intelligible in the case of the ordinary observer; if indeed it is not an inevitable consequence of the circumstances amid which he is placed, and of the degree of information of which he is possessed. That he should in consequence entertain a greatly exaggerated idea of the powers of Art, and form a depreciatory estimate of

the power of Nature in the cure of diseases, seems to follow as a matter of course.

II. It will not, however, appear so obvious at first sight, how medical men should fall into the same mistake; seeing that their attention, from the beginning of their studies, must be directed to the natural course of the morbid processes occurring in the animal body, and that their special business is to watch the effects of extraneous influences on these very processes. And yet when the whole case is candidly considered, it will not appear surprising that the same kind of misappreciation, though in a less degree, should be entertained by them. When all the circumstances hostile to the attainment of the truth in this particular are duly weighed, I think it will be admitted to be scarcely possible for even the most philosophical student to escape their unhappy influence in the first instance, or to get completely rid of it afterwards.

If the influence is ever wholly overcome, I believe it can only be through the teaching of a long and well-sifted experience, directed and enlightened by an independent spirit, and a due endowment of that philosophical scepticism, comparatively so rare, but

essential to all scientific investigation. The mind of ordinary or inferior power, here as elsewhere, can scarcely ever escape from the conventional thraldom in which it has been nursed.

The main obstacles in the path of the medical student and young practitioner, impeding the attainment of the truth in regard to the actual and relative powers of Nature and Art in the cure of diseases, lie rather in the circumstances under which the subjects are presented to them, than in the subjects themselves. When we have the proper field for investigation before us, there is very little difficulty in obtaining a positive and accurate knowledge of the power possessed by Nature in relieving and curing diseases. The phenomena to be observed are neither numerous nor very complex; the facts are easily obtained; and the deductions are both facile and sure. All that is requisite to ensure a positive and pure result is, in the first place, to take care that no artificial interference disturbs the organic processes going on, and, in the second place, to observe and chronicle the progressive events. It is a case of simple observation throughout; no sifting of premises, no elimination of causes, no grouping or balancing of effects, being requisite to

ensure a just conclusion. The just conclusion—the exact valuation or appreciation of the power under examination—is enunciated in the simple fact, indicating what has been the issue of the organic processes constituting the disease. The sum total of beneficial modification of the morbid processes, whatever it may be, whether amounting to a complete or an imperfect cure, must be acknowledged to be the exclusive work of Nature; in other words, of the conservative powers inherent in the living body. The finding of a proper field for such observation and study is, however, by no means so easy a task as might, at first sight, appear. In the case under consideration supposed to be capable of affording positive conclusions respecting the power of Nature, it is assumed that no artificial interference of any kind has been allowed to complicate the subject of observation, so as by possibility to modify the result. It must be admitted, however, that cases so pure, that is, so free from possible modification by extrinsic influences, are rarely to be met with even in the fields which best supply the observer with instances of natural therapeutics.

In no form of medical practice are the agencies which are classed under the term Regiminal, alto-

gether absent. Such agencies, it is true, do not in general materially interfere with the premises which supply the grounds for estimating the value of natural therapeutics. Except in some few cases in which stimulants are used in great excess, these means, as commonly employed, may be regarded, at most, as *assisting* Nature in her operations, either by directly co-operating with her, or by excluding agencies that tend to obstruct them. They are scarcely ever of such energy as to deserve to be considered as independent agents, capable of producing results differing in kind from those of Nature. Their influence may, therefore, be approximatively calculated, so as to leave the conclusions deducible from the agency of Nature alone, but little disturbed. The results obtained may at most be estimated as a little more favorable than when Nature is entirely left to her own resources; but still they are essentially the same results. And if diseases were commonly treated on the regiminal system only, there would be little difficulty in finding a field where the natural therapeutic powers might be studied,—not, indeed, in their absolute purity, but sufficiently pure to allow of intelligible and trustworthy deductions.

The case is very different, however, in the actual state of medical practice, which presents a field of observation very unlike that which mere regiminal treatment would furnish. Since the Medical Art assumed its present formal, bold, and complicated character, it is only in very rare or exceptional cases that the disease is left to Nature, or treated merely regiminally. On the contrary, the strongest and most effective powers of Art are usually employed for the very purpose of setting aside or counteracting or modifying, in some way or other, the powers of Nature. Generally speaking, we may even say that all the heroic arms of physic are invoked purposely to disturb, and obstruct, and overwhelm the normal order of the natural processes.

In all such cases it becomes most difficult to discriminate what may be due to Art from what may be due to Nature, and, consequently, to measure the respective and relative value of the two, in the cure of diseases. In the system of ordinary medicine (that is to say, excluding homœopathy and other inert modes of treatment), which may be considered as comprehending ninety hundredths of all the cases of disease treated by physicians, the discrimination becomes especially difficult, as there can be no doubt

that the ageneies sanetioned by it are eapable of greatly affeeting the normal funetions of the healthy living body, and also of powerfully modifying the new phenomena produeed in it by disease.

It is obvious, therefore, that to obtain a pure field whereon to try this question of the powers of Nature, we must go beyond the limits of ordinary praetiee, or, at least, must eheek and ehasten the instanees derived from it, by other instanees of a purer kind. Fortunately the opportunities of finding sueh instanees, though eomparatively rare and exeeptional, are yet suffieiently numerous and fruitful to supply to those who seek them, the neeessary materials for eoming to positive and sound eonelusions in regard to this very important matter.

It must, at the same time, be admitted that sueh fields are hardly aeeessible to the student or junior praetitioner ; or, if aeeessible, eannot be eultivated by him with any very benefieial result. His ignoranee, therefore, of this important part of the natural history of diseases, namely, the power of Nature to eure them, need excite in us neither surprise nor blame.

III. The diffieulties in the way of the student

and young practitioner, in obtaining an accurate knowledge of the Power of Art in the cure of diseases, are somewhat different in kind, and vastly greater in degree. When we have examined the principal of them, we shall be as little surprised at the ignorance of medical men respecting the real powers of their own Art, as respecting the powers of Nature, in modifying and curing diseases.

There can be no doubt that the grand fundamental obstacle to the attainment of a true appreciation of the powers of Art, arises from the student's ignorance of the Natural History of Diseases; in other words, from his ignorance of the curative powers of Nature. This knowledge, if instilled into the mind in an early part of the student's career, would act as a perpetual and ever-ready lamp, to clear up many of the greatest obscurities of therapeutics, and enable him to eschew much of the false logic and many of the false conclusions which are inseparable from ignorance of premises essential to the investigation. Without such illumination in his early progress, to enable him to find and to know the right way and the wrong way, it is no wonder that his subsequent career should be beset by doubt and error.

Greatly as it is to be lamented, it is not difficult to see how this remarkable defect of knowledge has been incurred by medical men, both in their pupilage and in their subsequent practical career.

The following are some of the more obvious causes leading to this result:

1. The first and most important of these causes, is the defect existing in all medical schools, of having no distinct chair for instruction in the Natural History of Disease, and the consequent neglect of it, or very inadequate attention given to it, by the professors of Pathology, Physiology, and of the Theory and Practice of Medicine, in whose courses alone any consideration of it could be expected.

2. Another and equally important cause is the impossibility of young men being able to prosecute by themselves such a study, while still students, owing to there being no open field for it in hospitals or dispensaries; every case there presenting itself being seen under the influence of medical treatment.

3. Again, great difficulties exist in the way of the hospital or private practitioner, of creating for himself a proper field for such a study. Of these difficulties we need only here notice the following:

a. The practitioner's own conscientious scruples against leaving any cases to the unassisted eare of Nature, from natural doubts or fears—magnified by his previous teaching—that he might thereby be injuring his patients or even endangering their lives. *b*. The non-conviction or non-perception of the utility of the knowledge to be so aequired, preventing the suggestion of sueh trials; a natural result of his previous edueation, which inculcated the exclusive aetion of Art in the cure of diseases. *c*. The dread of being exposed to the charge of mal-praetiee or dangerous practiee, in the eyes of his pupils, or brethren, or patients, if he omitted the ordinary remedies in severe diseases, and trusted to the natural restorative powers of the system.

4. It will also be admitted that sinee the great increase of charitable medical institutions in all parts of the country, it is not easy to meet with eases, even among the lowest classes, entirely left to Nature; while, from the natural instinct to seek relief from suffering, the rich of all ranks, almost invariably place themselves under some sort of treatment, regular or irregular; and there is never found any deficieney of practitioners of both classes who are ready to give their services.

5. Finally, we must not pass over, as an uninfluential cause, the inability of practitioners, from prejudices of education, to see in cases treated by them with remedies either inert or adverse to a cure, the results of the spontaneous operations of Nature, whether favorable or unfavorable; and the consequent inability to profit by the examples before them. How this ignorance of the natural history of diseases generally, and of the extent of the curative powers of Nature more particularly, operates in misleading the judgment of practitioners, and in leading them to an erroneous appreciation of the powers of Art, becomes manifest on the slightest examination of the subject.

If the vulgar notion of diseases and of the action of remedies were true, viz., that Nature has little or nothing to do with the cure, and that remedies in general act with some direct or specific power in curing diseases, it would be as easy to judge of the power of Art, as we have seen it to be, in the proper cases, of the power of Nature. There would then, indeed, be the same facility in obtaining trustworthy results on the one side, as on the other. All that would be necessary in this case would be merely to apply the remedies and note

what followed. There would, in fact, be no more difficulty in attaining positive truths in therapeutics, than there is in any of the sciences and arts that have to deal with inanimate matter.

Like the engineer who sees his steam-engine immediately commence action when he admits the steam to the piston; or the chemist who finds his alkali neutralized and converted into a constituent portion of a neutral salt so soon as he has added an acid to it; the physician would require no other evidence to establish the fact of the cure of a disease by his treatment, than the evidence of his own senses proving the simple facts of the sequence—the application of the remedy, and the removal of the disease.

But how widely different is the truth from this! So far from the facts of therapeutics being of this simple and obvious character, their evolution constitutes one of the most difficult of problems; so difficult, indeed, as to be, in a large proportion of instances, positively unsolvable.

It will be shown in a particular manner, hereafter, that the power of the system without any artificial aid, suffices, in the great majority of cases, so to modify the actions constituting diseases, as to

diminish or relieve them, or to remove or eure them. It will also be shown that the artifieial agents termed remedies, when they influenee diseases in the way of diminution or eure, influenee them (in the great majority of eases at least) by and through preeisely the same ageney as that whieh obtains in the ease of spontaneous eures. In both eases, to state the truth more preeisely, it is literally the same identieal ageney that is at work, viz., the vital aetions and powers inherent in the organism. In both eases it is Nature and Nature alone that operates and effeets the relief or eure; the sole differenee being that, in the ease of spontaneous eure, she does her work without a prompter or direetor or helper, while, in the ease of eure by Art, she does the same work and by the same instruments, but only, or at least partly, by extraneous suggestion, or with extraneous aid, or through extraneous eompulsion.

However favorably we may look on remedies, and although we may admit their validity in many eases, they ean at most be regarded in relation to the ease of most diseases, only as the voiee, hand, whip, or spur of the rider are to the progression and eourse of the horse: they may stimulate or exeite the natural

faculties to do the work which they themselves have no power to do; they may possibly, also, regulate or direct the course of action of the natural faculties (as the rider guides his horse) so as to force them to a speedier or even to a different issue; but the essential agency in both cases is exclusively in the individual organism, not in the extraneous spur;—the muscles of the horse in the one, the *vis medicatrix* in the other.*

And it is to be remembered that this natural curative power is not one that operates merely occasionally or feebly; but one that is always present, always active, and possessed of sufficient force to cure the great majority of diseases without any extraneous assistance.

It must be obvious, therefore, that to overlook this inherent curative power, in any attempt to estimate the value of Art in curing diseases, would be to overlook, to say the least of it, a most important agent. Such an oversight would be equivalent to that of the chemist who, in his manipula-

* The only exceptions to this general rule are the comparatively few and insignificant cases in which the therapeutic agents act on the morbid state directly or specifically, as will be shown in the case of the remedies termed "specifics."

tions, should be either ignorant of the presence of, or make no allowance for, another reagent precisely similar to the one he was applying; or to that of the arithmetician who, while operating with it, should overlook the existence of an item in his problem, calculated to double his sum total; or, still more accurately, to that of a rower in a boat on a river, who, in estimating the cause of progress between its banks, should make no allowance for the motive force of the current, but attribute the whole of his advance to his own exertions at the oar.

The explanations given above would almost seem impossible,—at least in the case of the medical man. And yet nothing less than this is the oversight constantly committed by all laymen, and by many medical men, in coming to the conclusions they entertain respecting the power of Art in the cure of diseases; and such is the doctrine actually or virtually inculcated in the minds of most medical students through their whole career. Can we be, therefore, surprised at their ignorance in after-life, respecting the actual powers of both Nature and Art?

IV. The additional circumstances now to be

mentioned, influenee the mind in a less direet and positive manner, but still their influenee is considerable in leading to the same result. They all coneur in ereating a disposition in the mind of the observer to ignore or depreeiate the working of Nature, and to magnify, if not to hold as exelusive, the working of Art.

Among these eireumstances, a very eommon one is the attributing to drugs or other remedies, formally prescribed, results which really flow from other eoneomitant influences, not purposely brought into aetion, it may be, yet incidental to the new relations of the individual in his capacity of Patient. Among results apt to be so misinterpreted may be mentioned those produeed by the eessation of some morbific influenee on the adoption of new and healthier habits, or by the establishment of some new and wholesome influenee. Of this kind may be mentioned cessation from over-exertion, bodily or mental, or, the reverse, eessation from under-exertion; ehange of locality, house, air, climate, scene, season, diet, soeiety; confidenee in the physieian or the treatment, &e. Habitually bent on the contemplation and expeetation of medieinal aetion, the mind easily overlooks influenees much more

potent, but not perhaps so immediately or so prominently operative.

A still more important and prolific source of these false estimates, indireetly leading to the undue glorification or over-appreciation of the Medieal Art, especially of that part of it ministered to by drugs, arises from the vast diserepancy that exists in the natural eharacter, progress, and results of diseases bearing the same name, during the same period of time or at different times. This discrepaney may depend on a great number of eauses, some of whieh may be known, but the majority of which cannot be known. Under this head may be reckoned, as the two principal difficulties—first, the difference of the same disease at different times as to its essential eharacter, whether manifest or hidden; seeondly, the differenee of individual eonstitutions, as to their mode of manifesting the effect of the same morbifie eause, and their power to sustain it.

Owing to the first of these circumstances, we see diseases bearing the same name exhibiting, at different periods, or at the same period in different places, phenomena and results extremely diverse; on the one occasion proving rapidly and most extensively fatal, and at another affecting individuals

mildly, and leaving few vietims behind them. As examples of this faet, we might name almost all aeute diseases that ever assume anything like an epidemie eharaeter. Every praetitioner of any experienee must have witnessed it in the ease of searlatina, smallpox, typhus fever, and Indian eholera.

The philosophieal and truly experieneed physieian, of eourse, makes allowanee for the diversity of the data he has to deal with in the two eases, and tries to estimate and appreeiate the results aeeordingly; but even he finds it frequently impossible to say how mueh of the sueeess or non-sueeess is owing to the inherent differenees of the two sets of instanees, or to the treatment adopted. By ordinary routine praetitioners and the lay publie generally, the difference of the results in the different visitations of the same disease, or in the different periods of the same visitation, or in the different loealities of its prevalenee, is sure to be regarded as evidenee of the effeet of some partieular kind of treatment; and the note of triumph or of reprobation is often sounded aeeordingly.

Were it not so humiliating to the philosophy of our art, it would be amusing to read the ehroniele of every epidemie disease, regarded from this point

of view, and duly recorded in the pages of our medical journals, as unequivocal testimonies of the power of Art, and inferentially of the skill of the chronicler!

The second circumstance, the difference of individual constitutions as modifying the phenomena and the results of disease, is one of universal and daily observation, not only in epidemical diseases, but in all diseases, whether acute or chronic. Its unquestionable influence in giving special characters to the same malady in different individuals, opposes difficulties of the same nature, and of the like formidable amount, to our attempts to obtain a just appreciation of results in therapeutics. Under precisely similar treatment, owing to this cause, we find the same diseases at the same time exhibit phenomena, progress, and events entirely different.

And here, also, while the man of science is merely puzzled and humiliated by his acknowledged ignorance, and felt want of power, the rash, illogical practitioner finds ample materials for his groundless inferences, for his pitiable self-gratulation, or his still more pitiable condemnation of his brethren.

To these special obstacles to the attainment of truth in therapeutics, must be added one of a more

general eharaeter, based on the very nature of the Medieal Art.

Unquestionably the most zealous advoeates of the dignity of the Medieal Art, must admit that if it is not altogether eonjeetural, many of its most important eonelusions must be allowed to rest on no better foundation than the balanee of probabilities; and no one who knows the difficulties that beset and obstruet the attainment of truth in all the other departments of knowledge having a like foundation, ean expeet any exeeption to be made in favour of medieine.

In the department of physieal seienee, as in meteorology and agrieulture; and in the department of moral seienee, as in polities, politieal eeonomy and morals; the same inherent diffieulties and the same uneertainty of results are universally aeknowledged to obtain. Truth is, no doubt, attainable, to a eertain extent, in all, but is most diffieult of attainment in all; and ean only be reaehed by the most patient investigation, by the separate sifting and weighing of every alleged faet and of every possible influenee, and, above all, by the aeeumulation of sueh an enormous quantity of instanees on every side of the question to be investigated, as shall war-

rant their being submitted as proper subjects of the Calculus of Probabilities.

Now, if we subject any department of practical medicine to this rigid investigation, we shall soon perceive the immense difficulties of attaining such results as philosophy can sanction and adopt. In the department of Therapeutics, more especially, with which alone we are at present concerned, such difficulties beset us on all sides. Some of these have been already noticed, but the catalogue is far from being exhausted; and many others press on us for discussion, if this were the proper place to undertake the task.

After the preceding illustrations of the extremely complex and difficult problems presented for solution in the therapeutics of Art, it need excite no surprise in any philosophical mind, that the contemplation —I can hardly say the consideration, much less the investigation—of them, should have generally issued in egregious mistakes and misapprecIations in the hands of medical students, who may be said to be not merely ignorant of some of the most important data essential to the inquiry, but who are necessarily biassed and prejudiced in favour of particular conclusions.

CHAPTER III.

GENERAL NOTIONS OF DISEASES.

All organized living bodies, when in their ordinary or normal condition, that is, when their structure is unimpaired, and their functions are all performed in the mode and order belonging to their natural constitution, are said to be in a state of Health. When the structure or functions deviate from this normal type, the individual is said to be no longer in a state of health, but to be ill, sick, or in a state of Disease; the word disease being the generic term employed to designate the aggregate of the deviations from the normal type, whether of structure or function, existing in any individual living organism, at any one time, or within the limits of a certain period of time.

These two states of health and disease are predi-

cable of all the classes of living organized beings, and of them alone of all the objects with which our faculties are conversant; no other forms of material existence being endowed with qualities capable of exhibiting either the one or other condition.

The states of health and disease are conditions equally belonging to vegetables and animals—to all kinds of vegetables and all kinds of animals; and the sciences or arts which have special relation to such conditions, must be considered as embracing the whole of the living organized creation.

These sciences and arts, which may all be comprehended under the general name of MEDICINE, have hitherto taken very little cognizance of the relative states of health or disease in the class of vegetables; and in the class of animals they have only as yet been applied, with any degree of care to these conditions as observed in man, and in the small number of animals which he has domesticated for his own uses, or confined within the sphere of closer observation for purposes of science or for pleasure.

It is, no doubt, a matter of just regret, that the investigation of the subjects of health and disease, has been hitherto restricted to so small a part of the

wide field to whieh it is applieable; as there seems every reason for believing that the pathology of the superior animal, Man, would be benefited by sueh investigations, in the same manner, if not to an equal extent, as human physiology has been advaneed by the study of the normal eonditions of the inferior animals and of vegetables.

In the present work, however, discarding all sueh general views, we must eonfine our attention exclusively to health and disease as observable in the human subjeet.

The observer of the phenomena whieh present themselves in the living human body, soon learns to reeognise, as a speeial type or formal state of these phenomena, that eondition whieh we eall natural or normal; in other words, the state of health. Knowing this type or model form, he readily reeognises any deviations from it that may oeeur, either in the material fabrie or in the series of aetions whieh are eonstantly taking plaee in it. The smallest deviation of this kind is, properly speaking, a morbid or diseased state; although the generie term Disease is not usually applied to sueh deviations, unless they are suffieiently marked to attraet the attention either of the subjeet of them or the observer, or of both.

In a fabric consisting of such a vast variety of parts, and manifesting such a multitude of actions, these deviations from the normal state may be expected to assume a corresponding variety of characters. As well for the convenience of study, as because many of the phenomena are specially and even essentially connected, these various appearances, whether having reference to the structure or the action of parts, or to both conjointly, are arranged by pathologists in separate groups or bundles, according to their coexistence in place or time, or their supposed degrees of relationship to one another, or to some common state or condition, known or conjectured; the different groups receiving names, as individual objects admitting of distinct contemplation.

The groups of phenomena, so individualised, are technically named Diseases; and constitute the subjects and objects with which one important part of medical science, and the Medical Art exclusively, has to deal.

In contemplating these groups of phenomena, with a view to their investigation, a preliminary inquiry naturally suggests itself, namely, whether they constitute such positive and definite objects

as can be studied in a philosophical manner, and with the reasonable expectation of our arriving at any fixed conclusions concerning them.

Regarded in this point of view, it must be admitted that diseases, as objects of study, cannot, in any respect, be brought into the same category as the things with which the physical sciences are conversant, nor yet be admitted into the catalogue of those definite existences which constitute the materials of the sciences of observation or the natural sciences. The matters with which Mathematics, Physics, Chemistry, in the one class; and Botany, Zoology, Mineralogy, in the other, are respectively concerned, being perfectly definite and positive, must appear to the apprehension of all sane observers as precisely the same things. What one man sees, and feels, and measures, and weighs, and tastes, is unmistakeably that which another man submits to the same processes of examination.

It is very different with the things we term Diseases. Many of their constituents, no doubt, are as definite and positive, in individual instances, as the phenomena presented by the material creation without us, whether organized or unorganized; but, as a general rule, diseases, when viewed in their

totality, furnish the mind of the observer with a mere congeries of varying and uncertain phenomena, many of which may or may not be present without altering the essential quality or the name of the disease. And it may be further affirmed that no two observers, contemplating the same bundle of morbid phenomena, can ever have the same identical image or idea of it imprinted on their minds.

It must not, however, be inferred from this that the study of diseases, as individual objects, is impossible, or that we cannot, to a certain extent at least, delineate their characteristic forms and features, and trace the mutations they undergo, during their existence, without losing their identity.

The meteorologist, the agriculturist, the political economist, the politician, the physiologist, the metaphysician, have all to deal with subjects of similar complexity and mutability; yet no one doubts of the reasonableness of making them objects of contemplation and study. As in them, so in the case of the morbid phenomena of animal bodies, the materials presented to us cannot be regarded as, in all respects, definite and certain; but they approximate sufficiently near to what is positive to justify inferences on which we may reason and act without hesitation.

In the primary studies of the medical pupil, as well as in the actual proceedings of the medical practitioner, much attention is justly devoted to the acquisition of information on this point; and it must be admitted that much positive knowledge has been so attained, more particularly in recent times, since what is termed Physical Diagnosis—that is to say, the recognition of diseases by physical marks—has reached its present high development.

The importance of this department of practical medicine well justifies any sacrifice that may be made to obtain a full knowledge of it, as it lies so obviously at the root of all successful practice. Diseases being very different in their nature, and requiring very different kinds of treatment, it is self-evident that all successful attempts to modify a disease by Art, must rest on the physician's knowing what particular affection he has to treat. If a disease is subjected to a wrong treatment under a false name, the result may be most lamentable.

Assuming it, then, as a matter of fact, that the phenomena which we term diseases have a character sufficiently marked and definite to constitute them individual things, we are not only justified in regarding them as such, but are authorised to take them in

hand, as any other subject of investigation, and do our best to present a complete delineation or picture of them in all their varying phases; in other words, to learn their Natural History.

In a philosophical point of view, there can be no doubt that the sort of grouping of phenomena which we adopt in order to constitute the idea of a disease, in our minds, is of the rudest sort, being for the most part effected arbitrarily and by violence; yet it is such as to harmonise at once with the imperfection of the human powers, and with the coarser necessities of practical action. If man's faculties were finer, he might be able to discriminate, amid the boundless shades of difference of pathological phenomena, an infinity of distinct groups, all as well entitled to the name of individual diseases as those few ruder groups which we now distinguish by that name. But in the actual state of our knowledge, in place of multiplying yet more our series of diseases, it may be a question whether it might not be better for the interests of Physic if our groups were more comprehensive, and consequently our diseases fewer, than they now are.

The old division of diseases into Functional and Structural—the former class being understood to

consist mainly of altered actions of parts, the latter of altered structure—is far from being philosophically accurate; yet it may be convenient to adopt it provisionally, in order to convey such general views of the nature of diseases as are contemplated in the present work.

In many instances of what are usually termed Functional diseases, we know that positive change of structure exists; at least in regard to the blood. And this may be the case, not merely when no sign of it can be found during life, but even, in some cases, when none can be discovered after death. It may even be questioned whether there is not of necessity some degree of structural change, whether discoverable or not, in every instance of disease. But it would, perhaps, be futile at any time to indulge in such niceties, in a science so imperfect as pathology, and in so rude an art as that of physic: at least, we may be permitted, on the present occasion, to call every disease functional in which we cannot detect some manifest alteration in the physical structure of the body, believed to be primarily connected with the morbid phenomena existing during life.

Perhaps the simplest notion we can form of a

disease is this deviation of some one organ from its normal or ordinary function without any discoverable change in its structure, as when the stomach rejects the food it ought to contain until it is fit to be transferred to the intestines, or when the bowels fail to discharge their contents after the proper intervals, or when the nerves supplying any part, instead of a healthy sensation, or no sensation, convey to the sensorium the feeling of uneasiness or pain.

However regarded, functional diseases must, of course, vary infinitely according to the nature and extent of the disorder existing in the functions. Not only may every single organ or function be the seat or field of a variety of diseases, according to the particular kind of disorder of its normal action which it presents; but the disorders of each individual part may be complicated in various ways with the disorders of other parts, so as to create an endless variety of forms, each of which might be regarded, philosophically, as a separate disease.

Such abstract forms, however, and such minute divisions, are not adopted practically by pathologists. In fixing on the phenomena which constitute a particular disease, the outlines are drawn more broadly and stronger; and only those phenomena

admitted into the group which have, or are supposed to have, a common relation to some one special condition, or some special conditions,—dynamic or material, or both,—which is or are to be regarded as their source and connecting medium.

It is to be recollected also that many diseases which in their essence may be regarded as functional, assume very *material* forms from the special character of the organs whose function is affected. Thus, functional disorder of the secretory organs necessarily leads to material changes in the character of the secretion, and may thus induce appearances of a kind very different from those we are accustomed to term functional. The primary element of such affections may be simply the disorder of the vital actions of the part; but as the nature of the secretions must depend on the character of these actions, we often see manifested in them physical alterations of a striking character. To say nothing of the more important but less obvious changes in the essential qualities of the fluids secreted, we often have enormous alterations in their external characters or in their amount. Thus the natural colour, odour, or consistence of a secretion may be entirely changed; it may be also either greatly diminished

or greatly increased in quantity, or it may be entirely suppressed.

In like manner, a morbid change in any part or organ, not of a secretory class, may be in the first instance purely dynamical or functional, and yet end in great alteration of structure. Indeed, it may be believed that this is the course of events in the case of most, if not all, structural diseases.

In short, the more minutely the subject is considered, the real difference between functional and structural diseases becomes the less appreciable; and the distinction between the two classes, therefore, less tenable not only in a philosophical but even in a practical point of view. Still, as already remarked, the conventional distinction may be advantageously adopted, for the purpose of establishing simpler and clearer views of diseases in the mind of the student.

Functional diseases, as formerly observed, have in reality no limits, as to extent, but the field of physiological actions in the body, viewed individually, or combined in endless variety. In our nosologies, however, and in the yet bolder distinctions of every-day practical medicine, they are regarded from a more limited point of view;

though still, in all respects, numerous and widely spread.

Every organ or system having special functions to perform, may become disordered; in point of fact, every such organ and system is found at times to become so disordered; and hence as many Functional Diseases as there are organs come under the notice of the physician. Indeed, the diseases are much more numerous than the organs, as the normal function of any one organ may be disordered in many ways, each form of change constituting a separate disease. Thus, every secretory and excretory organ may exhibit an excessive or defective action, with an excessive or defective formation and discharge of its normal products; or the normal products may be altered in numerous other modes besides that of quantity. In this prolific category we include the skin, all the mucous membranes, the salivary glands, the stomach, the intestines, the liver, the pancreas, the kidneys, the lungs, &c.

The nervous and vascular systems, from their extent and influence, being only conterminous with the system at large, are the sources of yet more varied and extensive disorders of function. To confine our notice to the nervous system alone, we

may attribute to its functional disturbances, many if not all the secretory disorders just noticed, besides a long list of very formidable diseases more immediately connected with its abnormal action—such as Neuralgia, Amaurosis, Epilepsy, Hysteria, Chorea, Tetanus, Insanity, Hypochondriasis, &c., &c.

Some of our most formidable and fatal diseases come strictly within the category of functional diseases as above defined, inasmuch as, generally speaking, they cannot be traced to any primary or special deviation of structure. Of this kind are the great class of diseases called Fevers, Convulsions, and many other diseases of the nervous system, Struma, &c., &c.

The changes in organs or other parts, which constitute the characteristic feature of Structural Diseases, may be of various kinds.

The substance of a part may be increased or diminished in size, in whole or in part, without any perceptible alteration in the qualities of the original fabric; the changes, in this case, being respectively named Hypertrophy and Atrophy.

The natural structure of a part, whether enlarged or diminished or retaining its natural size, may be altered in various ways by the interstitial deposit of

extraneous matter in its substance, such as some of the component parts of the blood, or matters altogether foreign to the healthy constitution of the body. These deposits may vary greatly as to their physical, chemical, and pathological characters, some being readily removable by the natural powers of the system, leaving the part altogether or almost in its original condition; others being not at all or only very partially removable, and being often destructive of the normal substance of the part in which they are situated. In certain cases the structural change, whatever it may be, seems to exist primarily, or at least to be an early or the earliest feature of the more general disorder which forms a constituent part of the disease; in other cases it follows and seems to be produced by this more general state; or both may appear to be coexistent from the beginning.

The pathological state termed Inflammation is the cause or source of most of those changes of structure in organs, which are removable by the natural powers of the system. In a certain proportion of such cases the primary change in the part rendering its structure more consistent or solid, is succeeded by a partial softening; and often by the formation of

a perfeetly fluid substanee, termed *pus,* which may be either taken up into the eireulation, or may find its way to the surfaee of the organ or the surfaee of the body, or may remain for an indefinite period in its original site. When the inflammatory state or proeess has its site on the external surfaees of organs eontained in one of the natural eavities of the body, or on the internal surfaees of organs possessed of a eavity in their own substanee, a fluid is usually thrown out by the inflamed vessels, and aeeumulates in the said eavities; thus ehanging the original features of the disease, or even ereating a disease whieh may be regarded praetieally as altogether new.

Analogous to this latter form of disease, and indeed often identieal with it, is the affeetion termed Dropsy, whieh eonsists essentially in the aeeumulation of a watery or serous fluid in the natural elose eavities, in the interstiees of organs, or in the most dependent parts of the body. Diseases of this elass, although depending on a great variety of eauses, may be said to eonsist essentially either of the eseape of the serous portion of the blood from the minute vessels whieh retain it in a healthy eondition, or of the defeetive absorption of the same

fluid when thrown out by the natural action of the same vessels.

In rarer instances the whole materials of the blood are thrown out in the same manner and in similar places; but more commonly the immediate condition of the vessels giving rise to such discharges is mechanical and even traumatic, the vessels which pour out the blood being actually broken or lacerated. The best morbid examples of this form of lesion (Hemorrhage) are those in which the ruptured vessels open in cavities having a natural communication with the surface of the body.

Another form of structural disease is that which consists not in the change of fabric in a part, from the infiltration or deposit of extraneous materials within its substance, but in the growth of an entirely foreign body either within it or from its surface. These growths are of various kinds; some of a malignant kind, and leading necessarily to the destruction of parts, and to death, from their pathological character; others being injurious simply from their mechanical action on neighbouring parts or organs.

There might be enumerated many other forms of structural change, met with in practice, and commonly receiving distinct names, which, however,

derive their characteristic form and importance more from their particular localisation than from any essential difference in their character. Of this kind are the impediments that are formed in the various outlets and inlets of organs, giving rise to the retention of their natural contents, or otherwise interfering with their normal action. Several diseases of this class are of the most formidable kind.

There remains to be named another most important class of morbid affections, which must, in a philosophical sense, be considered as structural, although they are not generally reckoned to come within this category; I mean changes in the composition of the blood. This fluid, as it exists in the living body, may justly claim to be considered an organ, although philology and pathological precedent may declare against the claim. Certain it is, that the blood has as particular a material structure or composition as the solid organs have theirs, and that its normal structure, like theirs, is liable to be changed in various special ways, and to give rise to morbid phenomena depending on the particular change. There is no valid reason, therefore, on pathological grounds, for excluding it, in an inquiry like this, from the list of parts susceptible of structural change, while prae-

tical considerations of the highest importance require that it should be included among them. Such an arrangement seems more especially proper at the present time, when pathological chemistry and microscopy have discovered the means of recognising such changes to an extent and with an accuracy not deemed possible in the former eras of Medicine.

Another of these wider classifications is that which divides the great body of diseases into two orders, viz., Acute and Chronic diseases. This division, although in certain instances distinct enough, is, on the whole, not more tenable, philosophically speaking, than that between the two classes of functional and structural diseases just noticed.

In a general way, we call diseases that spring up in the system suddenly, or in a brief space of time, or that are rapid in developing their characteristic phenomena, or are of short duration, Acute; and those which have the reverse characteristics of slowness of invasion, mildness of manifestation, and longness of duration, Chronic. These distinctions, however, are obviously not of an essential or fundamental kind, as they have reference not to the nature of the phenomena so much as to the mode of their manifestation and their degree. Indeed,

nearly all the diseases properly termed aeute present themselves also in the ehronic form ; so that we may almost say that we have two marked varieties under every individual nominal disease, namely, an acute and a chronic variety. These varieties are, no doubt, of great praetieal importanee, as they frequently require greatly modified or even different kinds of treatment ; but they demand no partieular notiee in a work like the present, whieh deals only with the more general relations of diseases.

CHAPTER IV.

OF THE CAUSES, MODE OF PRODUCTION, AND NATURE OF DISEASES.

In attempting to give a complete history of anything, we naturally look back to the period when it first came into the position of being a thing at all, so as to form the subject of a description or a history. And this necessarily leads the mind yet a step further back, viz., to consider how it came to be what it is—in other words, what are the sources or causes of it?

In the case of a disease, for example, forming the subject of our contemplation, and of which we desire to give an account or history, the mind, in setting about the task, naturally reverts to the period before its existence, and reviews the then state of the field or theatre on which it has been subsequently developed; it goes even further than

this, and seeks to learn how it eame to be so developed, and developed in that partieular field or theatre and in that partieular form.

The field or theatre of disease, as eontemplated by us, is the human body in its normal state, that is, with its material eonstituents and its vital operations all in the eomparatively perfeet eondition ealled health. Disease, as we have seen, eonsists in some deviation from or alteration of this standard eondition, affeeting either the physieal strueture or the aetions to whieh this is subservient, or both together. These deviations or alterations are infinite in number and form; but, as we have shown above, eertain portions or groups of them, separated from the rest as having or being supposed to have more elose relations to one another than to the remaining alterations, have been studied as individual things or subjeets under the name of Diseases.

It will not surprise any one who takes even the most superfieial view of a living animal body, and espeeially one who eontemplates it in eonnexion with the most perfeet maehines of human invention, that alterations should oecasionally oeeur in its material strueture, or in the aetions or funetions to whieh this is subservient. Indeed, the very nature

of the phenomena whose local and contemporaneous existence and mutual relations constitute nearly all that we know of a living organism, if it did not lead us to predicate with certainty the existence of disease as almost a necessary consequence of the actions characteristic of life, prepares us, at least, for the occasional supervention of such a state.

In a machine so marvellously complex as the living animal body, consisting of such an infinity of parts of extreme delicacy, all more or less depending on one another, and performing such a multitude of operations of the most elaborate and refined nature, it would seem but reasonable to expect that it should sometimes vary from its normal or perfect state, through some alteration in its material structure or some deviation from the regularity or harmony of its course; and this expectation must be greatly strengthened, when it is further considered that all this machinery, composed of the frailest and least durable materials, is self-created, self-sustained, self-acting, every instant varying and changing in the intimate composition of its parts, and, above all, constantly dependent on conditions and influences external and entirely foreign to itself, and which are in themselves perpetually varying.

The marvel, indeed, is—and truly it is one of the greatest of marvels—that, under sueh eireumstanees, a state of harmonious or perfeet aetion (in other words, a state of health) should not be rather the exeeption than the rule.

Systematie writers have divided the eauses of disease into different elasses, aeeording to their real or presumed mode and degree of aetion, sueh as predisposing, remote, exeiting, &e.; but in the point of view in whieh we are now eonsidering diseases, sueh divisions may be disregarded.

Diseases are sometimes eongenital, or born with the individual; having either no diseoverable eause or having an obvious external eause operating through the system of the mother, as in the ease of eongenital smallpox. Of those oeeurring subsequent to birth, some are fairly attributable to a primary or inherent defeet in some of the struetures or funetions of the body itself, the mere progress of time seeming suffieient to aggravate the original weakness or defeet into positive disease. Sometimes they even appear to be generated or to grow up in bodies untainted by any eonstitutional weakness or defeet, and without any diseoverable eonnexion with the external world or with the rest of the animal

system in which they arise. Most commonly, however, diseases are derived either directly or indirectly, immediately or remotely, from influences or matters coming from without.

Sometimes the cause of a disease seems simple, but more commonly there is a combination of causes, acting simultaneously or successively. Often, some very slight derangement produced in one part or function, by disturbing the harmonious action of others, induces a much more extensive derangement, and one of quite a different kind from itself. In other cases, one or more causes, so slight in themselves as to be almost or altogether imperceptible at the time, by long continuance produce at length great local or general disturbance, or both, and modify the tissues and the functions of organs in so profound a degree, as not only to give rise to a strongly marked disease, but to render its removal extremely difficult, if not impossible.

The following are some of the best-known and most obvious causes of disease, grouped under a few comprehensive heads:

1. Causes inducing constitutional feebleness and functional incapacity, leading to more formal diseases of a similar or of a different character. This

class of causes is often powerfully aided by the pre-existence of an analogous state of constitution, inherited from the parents, or at least congenital. The following are some of the more important of this class of causes: Insufficient nourishment, impure air, want of light, want of bodily or mental exercise, excessive bodily exercise, want of sleep, deficient clothing and insufficient external warmth, undue excretions, depressing passions, previous diseases, &c.

2. Atmospheric or other external influences, operating under particular circumstances. The following are examples: Exposure to great cold or great heat, to alternations of these, to rain or other kinds of moisture, to partial draughts of air; particular winds; particular electric states of the air, &c.

Several of these circumstances come also properly into the preceding group; but they are here supposed to operate in a somewhat different form and with different results. Under the first head they were supposed to be of less intensity and longer duration, and to give rise to that class of latent disorders usually called predispositions; under the present head they are conceived to be acting more intensely and rapidly and directly, and producing a more severe form of disease.

3. Errors of diet, as to food and drink, whether as regards quality or quantity, or both; too much food; too little food; unwholesome food; irregularity or undue regulation of meals, as too long fasting or too frequent eating; intemperate use of strong drinks of all sorts, &c.

The same remark appended to the last group might, with slight variation, be properly repeated here.

4. Mental causes, of every variety, operating on or through the nervous system, and giving rise to disorder and disease in various organs.

5. Mechanical and chemical agencies, acting either by producing immediate structural lesion of parts, or by directly disturbing the organic mechanism in such wise as to induce present or remote disorganization or disorder. Under this head may be included corrosive agents taken into the stomach or applied to the surface; all sorts of traumatic lesions, whether external or internal, and whether produced by foreign bodies, by the action or efforts of the muscular system, or by the spontaneous giving way or displacement of parts within the body; also accidental or spontaneous alterations of the texture, figure, size, &c., of organs.

6. Poisons taken into the body from without, by the stomach, lungs, or skin, or by any other medium.

This is a very fruitful source both of acute and chronic diseases, often of the severest kind. Many of this class of bodies, when introduced into the system, immediately or very speedily destroy life, without giving time for the development of the ordinary phenomena which constitute disease; they do not, therefore, come properly under notice in this place—at least, not when the circumstances are such as to allow them to operate in this manner.

The following kinds of poisons give rise to diseases of a more or less formal character; some of the diseases, however, being much more strikingly defined than others.

a. Certain vegetable substances of a poisonous character, produced naturally or extracted by art, taken in minute doses; some metallic salts of a like poisonous character, also taken in minute doses. Under this head come such substances as ergot of rye, the salts of arsenic, mercury, lead, copper, &c.

b. Putrid or decomposing matters of animal or vegetable origin, introduced directly into the blood by wounds, &c., or indirectly through the stomach

as food. Under this head come poisons introduced into dissection-wounds or in the examination of dead animals; the defective food producing scurvy; food that has undergone a peculiar putrefactive process, as cheese, sausages, &c.

c. Poisons of uncertain origin and nature, but produced in particular localities. The poisons producing bronchocele, cretinism, intermitting and remitting fevers, and some other endemic diseases, not capable of reproducing the poison during their continuance in the living body.

d. Poisons usually called morbid, the characteristic features of which are the being transmitted from bodies affected by certain diseases, and the giving rise to diseases of a strictly definite form and course, during the progress of which a similar poison to that originally causing them is generated, capable of producing a like disease in the bodies of other individuals. Under this head come the ordinary causes of typhus, smallpox, chicken-pox, measles, scarlatina, plague, one form of yellow fever, Indian cholera, influenza, scabies, syphilis, purulent ophthalmia, &c.

e. Morbid poisons transferred from animals, as glanders, hydrophobia, vaccinia, &c.

6. The ova of certain animals producing parasitic diseases. Intestinal worms, Guinea worm, Gigoe, &c.

7. Diseases previously existing in the body, but passed off; diseases now existing; also over-action or irregular action of particular parts of the system from temporary causes.

Under the first category come many diseases both acute and chronic, which leave morbid tendencies that eventually result in real diseases.

Under the second, come such cases as the following: Diseases of the heart, liver, lungs, &c., giving rise to hemorrhage, congestion, dropsy, &c.; diseases of the kidneys and liver, giving rise to cerebral, cardiac, and other organic affections through the influence of retained matters that ought to have been excreted; diseases of the brain and spinal marrow, producing functional diseases in all parts of the system, particularly in the muscular and secretory apparatuses.

Into the last category come such cases as excessive muscular exertion, producing rupture of vessels, &c.; excessive action of the brain, producing many functional diseases.

8. Traumatic lesions, giving rise either immediately or remotely to diseases of any organ or part

of the body, generally of the kind termed inflammatory. It is hardly necessary to enumerate the affections that come under this head, as they belong to the division of medicine termed Surgery, not treated of in the present volume.

The intimate and precise manner in which the causes above enumerated, and many others which might be mentioned, operate in the production of particular forms of disease, has not, save in few cases, been completely ascertained. In a larger proportion of instances it is partly or partially known; but in the great majority of diseases it is either entirely unknown, or is only conjectured and provisionally admitted. With the single exception, perhaps, of the mechanical, and of one form of the chemical causes, which may produce instantaneous derangement by direct physical destruction or disorder of some part of the organic machinery, all the other causes (or almost all) operate only in an intermediate or indirect manner in producing the phenomena which we recognise as disease, or, at least, as formal and formed disease.

The morbid condition constituting disease, whether consisting of actions of a merely dynamic or fune-

tional kind, or consisting of alterations of structure or composition of the solids or organic fluids, or both, are all either the immediate result of the vital actions ordinarily existing in the system, or are, at least, produced in subserviency to, or under the control of, these actions. In no case (with the exceptions mentioned) have we the simple physical results of physical agents, chemical or mechanical, operating according to the laws of mere matter. Consequently the knowledge of these laws goes, at least, but a very little way, and frequently goes no way at all in helping us to comprehend or explain the operation of the causes of disease even when best known.

What we term causes of diseases are not real or efficient causes, or indeed, properly speaking, causes at all; they merely constitute, as it were, the *occasions* on the existence or presence of which, or, so to speak, on the *prompting* of which, the natural or vital functions of the living body set about forming the diseases themselves, and do form them.

In this point of view, then, it is obvious that what we term diseases are not things different from, and extraneous to, the living body, but rather particular conditions of this; new phases, as it were, of its vital manifestations. They are essentially

vital, that is, processes of a living organism, whether they come under the head of dynamic or functional, or of material or structural conditions or states.

When diseases exhibit changes in the structure of the body, the constituents of these changes consist of materials identical with or at least of similar kind to the normal constituents of the body, and are aggregated and arranged by the very same organic processes which obtain in the normal state of health,—only somewhat modified, it may be, by the new conditions present.

We may state the same propositions more briefly thus: All morbid action is but a modification or perversion of some natural or normal action or function; and all the physical results constituting morbid structural alterations, are mere perversions or modifications of natural or normal textures, or, at most, analogous textures fabricated from the same materials by like processes.

It will be thus seen that disease, contrary to the vulgar notion of it, is no new thing superadded to the living body and constituting a special entity *in rerum natura,* but is a mere group or collection of modifications of structures already existing, and of actions always going on in a living system.

Whatever be the remote or exciting cause of the morbid state or disease, whether external to the body or originating in the body, the morbid state itself is always the product of the body itself, that is, of the vital actions always taking place within it, and of the materials of which it is normally composed.

Neither is disease, as others believe, a distinct *imperium in imperio,* independent of, and setting at defiance the legitimate laws of the organism in which it is developed, and acting in accordance with laws of its own. It is rather, if we may carry on this analogy, like a constitutional Opposition in a free government, organized in accordance with the existing laws, and still submitting—reluctantly it may be—to their sway.

Although thus neither individual entities superadded to the body, nor yet perfectly novel and original conditions of the structures or functions of the body, but merely alterations, modifications, or perversions of the conditions existing in the state of health, Diseases may and do still have special laws of their own, governing the manifestations of their general phenomena and course. These laws, however, are, for the most part, only modifications

of the normal laws of the system, or, where most differing from them, are still elosely analogous and more or less subordinate to them.

To prove that diseases are truly natural though not normal conditions of the living animal body, and that they are formed and maintained and constituted by the same vital powers which regulate and eonstitute the ordinary eonditions of health, we have only to pass in review the phenomena presented by a few of our best-known diseases, or elasses of disease, and trace their progress from their origin to their termination.

Attention to this fact is the more important, beeause it constitutes one of the strongest *à priori* grounds for admitting the reasonableness and probability of the Natural Cure of diseases, hereafter to be shown as a matter of faet. If Nature, without any extraneous aid, either dynamieal or material, ean build up diseases, there would seem no substantial reason why she should not be equally able to effect their removal.

I. In the ordinary phenomena presented by nervous diseases, what do we see but mere variations in the natural actions of the affected organs? For

instance, in epilepsy, chorea, tetanus, and all convulsive affections, we have, as chief external phenomena, contraction of muscles, producing movement of the limbs or trunk of the body; and as essential cause of this, some abnormal stimulus affecting the normal action at the origin of the motor nerves exciting the muscular contractions. The only difference we can discover between the external form of these diseases, and the phenomena of ordinary health is, that we have the morbid influence, instead of the normal instinctive power or the will of the individual, acting on the muscles; and abnormal, objectless contractions, instead of contractions regulated so as to produce a particular effect.

II. In the class of Inflammations we have phenomena much more novel in appearance, and seeming, at first sight, to bear little or no relation to the phenomena of health. And yet, on examination, we find that all the characteristic changes are produced by the same actions and materials that obtain in health, only slightly modified. The local phenomena of redness, swelling, increased heat and pain, whatever be their primary cause, or the essential conditions on which they depend, are all explicable

on the ordinary prineiples on whieh the sound eonstitution is regulated. For instanee, we may state, in general terms, that they are the result, in the first plaee, of an undue quantity of blood visiting a part, in eonsequenee of some peeuliar influenee affeeting the nerves and eapillaries of that part; this undue afflux of blood being followed by its abnormal aeeumulation, and this by the effusion into the tissues, of some of its eonstituent parts more or less altered, and forming an intimate and vital eombination with these tissues; in other words, a kind of abnormal or perverted seeretion and nutrition.

In like manner, the general phenomena of inereased temperature, inereased or deereased aetion of the vaseular system, &e., are partly the eonsequenee of a eertain modifieation of the normal eonstituents of the blood, and partly the result of modified aetion of the nervous eentres (probably produeed by this modifieation of the blood), produeing ehanges in the normal proeesses of waste and reparation.

Here it will be seen that we have nothing new either as to matter or funetion, but simply a modifieation of old eonditions.

III. In the very important and extensive elass of diseases termed Fevers, the phenomena chiefly eonstituting them are mere modifieations of the ordinary normal processes of the system, although the essential eause of these modifieations may be something introdueed from without, and altogether foreign to the animal body. In the point of view under whieh we are now eonsidering diseases, it is immaterial what may be the preeise mode in whieh the poison operates in produeing the morbid results; still it may be satisfactory to know that our most probable hypotheses eompletely harmonise with the views here advaneed.

Most of the phenomena of fever might, no doubt, be pretty well aeeounted for on the supposition that the exeiting eause, the poison, aeted direetly and fixedly on the brain and other nervous eentres, without produeing any primary eontamination of the blood. The speeial phenomena of eruptive fevers, however, and some of the phenomena of all kinds of fever derived from a poisonous souree, seem to establish the faet of sueh contamination being one of the essential elements of the disease. Both conditions, disorder of the nervous eentres, and contamination of the blood, are requisite to explain all

the phenomena; and this view of the pathology of fever appears to be as well established as any of our most positive doctrines in medicine.

It matters not to us how these two fundamental conditions of the disease are brought about; but the more probable explanation is this—that the poison has its primary site in the blood, is by it diffused through the whole system, and so directly visits, and perhaps more or less influences, every organ in its structure or function, or both. It visits, of course, the brain and other nervous centres among the rest, giving rise to actions in them which, from the special character of these organs, must disturb and disorder almost every other organ and function of the body; and so all the phenomena of Fever arise as simple results of the natural actions of the body, somewhat distorted from their normal course by an abnormal stimulus.

It is here assumed that it is the poison itself, conveyed directly to the brain, that induces the morbid actions in it, which influence the rest of the system in a morbid manner. It is, however, quite possible, and perhaps equally probable, that the poison does not act in this direct manner, but only alters, in the first instance, the qualities of the blood; and

that it is the blood so altered, and not the poison, that immediately acts on and disorders the brain. But either view is equally in accordance with the fundamental proposition here set forth.

But however this question may be determined, a yet wider and more philosophical view of the whole case will show that poison-diseases, whatever be their precise nature, are strikingly illustrative of one important part of the proposition above announced; viz., that all morbid phenomena, if not forming an actual part of the natural constituents and functions of the body, are, at least, directed, modified, governed by, and subordinate to, the organic laws which rule these constituents and functions in the normal or healthy state. In the case of many of the morbific poisons it is certain, and in the case of all it is probable, that, when they do not destroy life, they are eventually either destroyed, that is, decomposed and rendered harmless, within the body, or expelled from it, by the natural powers of the system. It must, therefore, be allowed that, taken in this point of view, this group of diseases illustrates, in the most striking manner, the intimate relationship, at least, if not the actual identity of the phenomena of health and disease.

IV. In respect of the diseases contained in the classes Hemorrhages and Dropsies, it may be stated that a large proportion of the former, and all the latter, consist simply in the perversion of the normal functions of secretion, excretion, and absorption, the extreme vessels allowing the escape of the fluids which they usually retain, or not taking up those they are accustomed to take up in the state of health. The secondary modifications of these results, depending on the locality of the vessels, as opening into close cavities or passages communicating with the exterior of the body, although greatly altering the external form of the disease, do not change, in any respect, its essential character, which is so decidedly that of a mere modification of some of the ordinary functions of health.

It is true that in one class of hemorrhages there is an entire departure from normal or healthy action; the vessels effusing the blood being ruptured; and thus the case is brought into the category of mechanical or traumatic diseases, which do not come under our consideration at present. It may be well, however, to remark that even in these cases, the cure of the special lesion constituting the disease, when it takes place, is, in every instance, the

immediate result of vital actions, the ruptured parts being consolidated by the agglutination of the fluids thrown out by the vessels for this special purpose.

V. The class of diseases which comprises alterations in the size and consistency of organs, depositions of morbid secretions in or upon them, and growths extraneous to the native tissues on which they exist, comes evidently in all its forms into the category of natural actions and natural structures modified or perverted. Some of the diseases are mere varieties of healthy nutrition; others are examples of perverted nutrition and growth; and the rest are depositions from the blood, by the ordinary process of secretion, of matters generated in it by the ordinary processes of vitality.

VI. All the diseases included in the class of poison-diseases may be regarded as irritations arising from without and giving rise to mere modifications of the natural actions and sensations of the part; that is, if we look to the effects as the disease, and not to the cause. If we regard the substances exciting the morbid actions, as the disease or a part of the disease, then the observations formerly made

on blood diseases will equally apply here. In either ease, however, it is obvious that there is no mystery in the matter.

VII. The group of traumatie or meehanieal diseases, viz., wounds, fraetures, ruptures, displaeements, &e., of the solid eonstituents of the body, may seem, by the very enuneiation of the ease, to be put entirely out of the eategory of instanees in whieh Nature ean elaim a part. But they are far from being entirely so. In their produetion, or what may analogieally be ealled their first stage, some of the instanees are so, as, for example, wounds inflieted by external agents. But, even in their very produetion, many of the eases keep within the eategory of events produeed by normal aetions more or less modified, as, *e. g.*, disloeation of bones by museular action; fraeture of bones by the same agents, in attempts to prevent falls; rupture of tendons by the museles attaehed to them; rupture of blood-vessels from over-aetion of the heart, &e.; hernia from abdominal eontraetion; volvulus from perverted peristaltie aetion of the bowels, &e.

CHAPTER V.

OF THE COURSE OR PROGRESS OF DISEASES.

Having already attempted to deseribe, in a general way, how diseases originate, how they are formed, and in what they essentially eonsist, it might seem that nothing more remained to eomplete their history as objeets that may be studied. And this would be the ease, if, instead of belonging to and being eonditions of a living system, they eonstituted a substantive portion of the inorganie world.

In the seienees of simple observation eonversant alone with the dead materials of our globe, as in Mineralogy and Geology, our deseriptions of objeets made at any one time will remain equally true of them at any other time. In the physieal seienees of experiment, also, as in Chemistry and Physies, a result onee attained is attained for ever, and the

record of it, if accurate, will be found equally applicable to all future manifestations of the same result or event.

The case is very different in the living organic world. In this there is no fixed or permanent state; everything is in a condition of perpetual change; what was true respecting any individual at one time is not true at another: alteration and difference being as characteristic of this as permanency and sameness are of the other department of Nature. A plant or animal, from the moment of its development as a living being until the period of its extinction in death, regarded as an individual, may be truly said never to be precisely the same, at any two different moments of time; while a crystal, or a rock, once formed, remains always unchanged; and a chemical process is ever found the same under like circumstances.

The condition of living organized bodies being thus essentially one of change, everything allied essentially with them is found to partake of the same quality.

What we term Health, or the normal state of the various structures and functions of the living body, must thus be a state constantly varying in

some of the elements which constitute it; the health of yesterday is not the health of to-day, in strict philosophy, although the state is still properly called by the same name, so long as the alterations do not pass beyond the bounds of normal variation.

In like manner, the elements or conditions which constitute Disease—being, as we have shown above, mere modifications of the conditions and processes of health—must necessarily participate in the same natural variations; the state so varying being still entitled to the name of disease, so long as it does not repass the abnormal boundary and recede within the limits of health.

But variations of this sort in the phenomena of diseases, although claiming notice as a part of their natural character, constitute no element of what we term the progress of diseases. What marks this progress are changes in the constituent elements or essential form of diseases, considered as individual objects having a successive existence in time. They constitute—or, at least, indicate—what is in our thoughts when we say that disease is a thing that is not only changeable and unstable, but which, like the organism in which it exists, has a beginning, an onward course or progress, and an end. It is this

varying progress or progressive variation of diseases, that we have here to consider, as one of their most important characteristics.

Every disease, viewed on the large scale, has a course or progress peculiar to itself; yet this course varies greatly in individual instances, not merely in the rapidity with which the progressive changes take place, but in their form and order as well as in their number and degree. The two great classes of disease formerly mentioned, the Acute and Chronic, differ greatly in the degree of definiteness and regularity of their progress; the former being greatly more definite and regular than the latter.

Some diseases may almost be said to have no growth or progress at all, reaching their height or acmé at once, and as it were *per saltum*, through the very nature of their exciting causes. Others, though having in reality a period of immaturity or growth, do not manifest this by recognisable signs or indications, the formal disease being only then acknowledged and named when it presents itself in its full development.

We have examples of the first of these classes of cases in many of the traumatic or mechanical diseases, such as hernia, rupture or displacement of

organs from external violence or muscular effort, and, generally speaking, in all surgical affections originating in a material lesion of structure.

We have examples of the second class in several forms of chronic diseases becoming suddenly acute, also in some kinds of hemorrhage, as hæmoptysis, apoplexy, and other sudden ruptures of large vessels in the interior of the body.

Several of these diseases, as well as others that might be named, may be said to have almost no progress towards decadence, as they come suddenly to a close by the supervention of the state of health or of death; as we shall see when treating of the terminations of disease.

Cases of this kind, however, may be regarded as exceptional; for the great body of diseases may be truly said, like the living organisms in which they appear, to have, from their commencement, an advance or progress until they reach their full development, and then either extinguish life or have a progressive decrease until they vanish or disappear entirely or partially in the state termed health.

It is impossible to present a general picture of the progress or successive existence of diseases as a single class of objects, on account of the extreme

differences that exist in this respect among them. It will, therefore, be preferable to endeavour to convey the general idea to the reader, by briefly tracing in outline the course of one or two diseases which have marked features, and which may serve as samples of the rest.

For this purpose I shall select two of our most common acute diseases, Inflammation of the Lungs and Typhus Fever. Both of these have well-defined characters, and one of them (Pneumonia) has the additional advantage of possessing a local structural element as well as dynamical or functional disorders of the system generally.

Inflammation of the Lungs, or Pneumonia.—A person in health, more frequently a person more or less out of health but without any formal disease, is exposed to cold, or wet, or any other of the ordinary exciting causes of disease. After a time—a few hours or days—indistinct signs of disorder show themselves, such as chilliness, shivering, pain in some part of the body, and a feeling of exhaustion, prompting the assumption of the horizontal posture and rest.

After the lapse of some hours or days, the cold-

ness and exhaustion are succeeded by great increase of the natural temperature of the body, and of the normal action of the heart ; in other words, a feverish state has supervened, and is accompanied, sometimes preceded, by symptoms indicating a local affection of the chest, such as quickened respiration, cough, perhaps pain.

These symptoms continue, and are soon accompanied by still more evident signs of the local disease of the lungs, such as augmented difficulty of breathing and cough, congested state of the face, with the expectoration of mucus of a peculiar kind, generally tinged with blood.

These external symptoms, and the positive evidence derived from auscultation (corroborated by pathological knowledge previously acquired in cases proving fatal in this stage), indicate the local alterations taking place, or that have taken place, in the part of the lungs affected. These alterations are such as usually characterise the inflammatory process, modified according to the normal structure of the affected part. There is, in the first place, an augmented afflux of blood to the part, soon amounting to a persistent accumulation of it in the vessels, with alteration of its physical and vital qualities,

gradually producing an obliteration of the areolar texture of the part, so as to convert it, in the severer cases, into a solid substance more or less resembling liver. In the less severe cases, the alteration of structure does not proceed so far, the onward process of the disease being arrested by Nature in an earlier stage of the local change. During the whole of this period, which may only extend to a very few days, or may last several weeks, the general febrile symptoms, as well as the local phenomena, usually continue, varying greatly in intensity and character in different cases.

In the simpler class of cases, the onward progress of the malady is, at first, partially, and then entirely checked, and Nature sets all her agents to work to undo her previous proceedings. This process (technically termed Resolution) may be briefly described as a simple reversal of the steps which led to the formation of the local affection.

Contemporaneously with the subsidence of the material local affection, the greater portion of the local disturbances more immediately connected with it decrease also; as, for instance, the pain, oppression of breathing, the congested aspect, &c. The painful vehemence of the cough also subsides, though this

may be still frequent, and accompanied with an augmented instead of a diminished expectoration; the secretion of the expectorated fluid into the pulmonary cells, and thence transmitted to the bronchi, being one of the means by which the morbid materials constituting the local malady are got rid of.

Along with the gradual declension of the primary and principal local affection, and the disturbances immediately dependent on this, the remoter and more general disorders of the system subside also; as, for instance, the morbid heat of skin and quickness of pulse, &c. At this period of the disease, it is sometimes observable that one or more than one of the secretory organs exhibit, for a time, an abnormal condition both of their natural action and of their natural products. This is especially the case with the secretory function and secretions of the liver, kidneys, and skin; there being no more doubt here than in the case of the expectoration, that these abnormal secretions and excretions form part of the machinery whereby the morbid products constituting the local material portion of the disease, are carried out of the system.

Such may be said to be the more general pro-

gress of inflammation of the lungs, when it terminates in cure or the restoration of health, by the most favorable proeess of resolution. It may, however, reaeh the same termination in health, under other forms and aspeets of progress; as by the proeess of suppuration, or by that of gangrene, of the inflamed parts, the speeial features of whieh it is unneeessary here to detail.

When, instead of any kind of termination in health, death supervenes, the progress of the disease is necessarily altered from its more ordinary eourse; mueh, it may be, if the fatal event takes plaee in the earlier stages of the disease; not mueh, perhaps, if it takes plaee only in the last stage.

Typhus Fever.—The general progress of this disease, upwards and downwards, is of the same kind as that of the last, or, at least, resembling it; though the partieular manner of the progressive ehanges shows a eonsiderable external differenee, on aeeount of the very different eharaeter or genius of the morbid affeetion. Many of the steps, also, will be found less manifest, and therefore less eertain, in the ease of fever, and this ehiefly for two reasons —first, beeause we are really less aequainted with

the essential nature of this disease; and, secondly, because we have not in it, as in inflammation, any fixed and definite local physical affection, which we can look to as a sort of index or dial indicating, by its material changes, the general changes in the whole system. However, even in fever, we shall be able to see enough to establish the grand principle we have shown to exist in inflammation, and which we believe to exist in all diseases, namely, that it is by the same ordinary operations of the system which exist in the state of health, that the morbid states, termed diseases, are formed and are removed.

The simplest notion we can form of typhus fever —and probably the notion represents the truth in all cases of well-defined fever—is to regard it as a state of general disorder of the system, produced by a peculiar poison introduced from without. What may be the special nature or qualities of the poison, or what is the precise mode of its introduction into the healthy body, we can only conjecture: of the mode in which it operates on the system when introduced, in giving rise to the remarkable phenomena termed collectively Fever, we are perhaps still more ignorant

The common theory that regards the poison as,

in the first instanee, entering into and eontaminating the blood, and so visiting and disturbing the various organs of the body, seems as probable as any. At any rate, this view suggests to the mind a notion of the disease whieh is intelligible and eomprehensible. If, in addition to this primary disturbanee of organs by the poisoned blood, we regard the individual organs so affeeted, and more espeeially the nervous eentres, as fresh sourees of disorder, through their perverted aetion on other parts, our notion of fever will be still more explieit, and may, perhaps, be not very far from the truth.

In fever, fully formed, we may say that there is seareely any one organ or eonstituent part of the body, whieh does not deviate, more or less, from its state in health, either strueturally or funetionally, or both. The funetions of the brain are disordered in every ease, sometimes in a manner that shows this to be the organ prineipally affeeted. There is either stupor or exeitement, or the one state alternating with the other. There is either no sleep at all, or too profound sleep, or sleep disturbed with delirious agitation, and there is often formal delirium lasting eontinuously for days. Most of the senses are morbidly affeeted, being either sharp-

ened or blunted or depraved; there is often, when stupor is absent, a painful sense of restlessness, and occasionally actual pain in various parts of the body. The digestive function is suppressed or completely altered from its natural state; there is no appetite for food; sometimes there is vomiting; generally intense thirst. The actions of the intestinal canal are changed, there being either constipation or purging; the secretions and excretions in both cases being changed from the state of health. The functions of all the secretory organs are changed. The function of the kidneys is always greatly altered, the secretion of urine being generally scanty, sometimes suppressed, and the urine itself always presenting appearances differing from those of health. Generally speaking, there is intense heat of skin, rising many degrees beyond the standard of health, and lasting through the greater part of the disease; the skin being, at the same time, dry or parched; or this state may alternate with relaxation and perspiration, often profuse in degree and morbid in quality. At one period or other of the disease, there is also an eruption on the skin, varying in character according to the special nature of the fever.

An ordinary feature, though far from an invariable one, in full-formed fever, is the presence of marked local changes of a structural kind in one or other of the principal organs, presenting all or most of the signs of common inflammation. One distinctive feature—and there are several others—between this inflammation as it exists in specific fevers, and that which characterises purely inflammatory diseases is this, that, in the latter, it constitutes an essential part of the disease from the beginning; while, in fevers, it arises only after the disease is more or less formed, and is rather an accidental or incidental occurrence than an integral part of the malady.

On account of this difference, we cannot, in the case of fever as in the pure inflammation, regard the local affection as an index of the general affection, or as affording the means of judging of its progress through the material changes in the other.

The persistence or duration of the different stages of a fever, as well as its total duration, vary greatly, not merely in fevers of different type, but in individual cases of the same fever. There may be said, however, both in regard to the duration of the particular parts or stages and of the whole disease, to

be a medium or average period, which is rarely deviated from, in an extreme degree, in instances of the same species of fever.

The natural course of fevers, as of inflammations, and, indeed, of all other acute diseases, is greatly modified according to the way in which they are destined to terminate, viz., whether in the restoration of health, more or less complete, or in death. This latter termination may occur at any period of the disease; and as it necessarily limits all marked manifestations to the precedent state, the total duration of fever so ending must be very varied.

The particular mode in which fevers come to an end may also vary extremely, and more particularly according to the degree of development or period of the disease. In some rare cases the poison destroys life, very shortly after it has been received into the body, either by its direct action on the blood and on the nervous centres, or by giving rise to disturbances incompatible with prolonged vital action. Here fever, properly speaking, can hardly be said to exist, its ordinary phenomena not being permitted to develop themselves. In other cases the general febrile disturbances are so great, or some

individual disturbance is so intense, that death ensues at an early stage of the disease.

In a much larger proportion of instances, however, death does not take place until after the disease has been completely developed, or has reached that period which we call the last stage. The precise mode in which the disease produces death, may be very different in each of the different periods in which it occurs.

When, instead of terminating in death, fever terminates in health, more or less complete, the disease may then be said to exhibit its features in all their completeness, or to go through the whole extent of what may be called its natural course.

It would lead to no important practical result to trace the steps of the progress of fever one by one; and, indeed, it would not be an easy matter to make out a definite or formal record of a series of things so various and so uncertain. It will suffice to state that, when fever is once fairly developed, the phenomena manifesting it usually continue for a considerable period—that is to say, for an uncertain number of days, say five, seven, ten, fifteen, twenty, more or less—without any very conspicuous change in their general aspect, though perpetually

varying in particular features. Usually, indeed, the symptoms (that is to say, the morbid disturbances) are fewer and less intense in the more early stage, and increase in number and intensity until the *status* or acmé of the disease may be said to be attained. But there is nothing positive in this respect; ameliorations and aggravations in the number and severity of the symptoms showing themselves unexpectedly in every period of the disease. In the slighter forms of fever these variations may not be very great or conspicuous, the disease keeping a sort of moderate and even course, until the period arrives when signs of amelioration show themselves. In the severer forms, on the other hand, immense variations take place, some of them assuming the character of extreme intensity and danger to life; and it often happens that the first signs of amelioration or progress towards cure, insensibly supervene after a long-continued state of oppression, or of exhaustion, or of some other alarming manifestation of disease, during which the observer remains in the greatest uncertainty whether the disease shall not terminate in death instead of recovery.

This turn in the disease, as it is familiarly termed, though often taking place almost im-

pereeptibly, is sometimes marked by one of thosc sudden and very remarkablc changes ealled *crises*, consisting of some profuse sccrction from the skin, liver, bowels, or kidneys, or of some sudden external inflammation or eruption on the skin. When this is the ease, the amelioration in the state of the disease generally, or in some of its more prominent symptoms, is somctimes vcry remarkable, and proeeeds rapidly to a perfeet cure.

The other or gradual progress, originating imperceptibly, is, however, by mueh the more ordinary form of secession of the disease. In this case the amendment begins sometimes in one symptom or elass of symptoms, and sometimes in another, and may, for a day or two, be so slight as to be rather surmised than distinetly reeognised. Gradually, however, the favorable change becomes more evident —one morbid manifestation after another lessening or disappearing; one disordered funetion after another rcturning, to a greater or lcss cxtent, to its normal offiee, until at length eonvaleseence, soon to be followed by health, is fairly established.

The foregoing details respeeting inflammation of the lungs and fever will suffiee to eonvey to the

reader's mind a sufficient notion of what is meant by the Progress of Disease, in acute cases.

Chronic diseases differ in so many of their characters from acute diseases, that it is much less easy to give any general view of their progress as a class.

Acute diseases, generally speaking, spring up rapidly or suddenly, while chronic diseases grow up slowly and insensibly. Acute diseases may be said to be habitually characterised by morbid phenomena, or symptoms, of a violent or strongly marked kind, while chronic diseases, in their more common state, exhibit symptoms of a less strongly marked and less vehement kind, and only present such at rare intervals, or as it were incidentally. Acute diseases run a comparatively rapid and definite course, and have a well-defined form and progress; while chronic diseases are, by their very name, slow, spreading over much time, and having (at least the majority of them) no well-defined form, progress, or termination. Many chronic diseases, it is true, have a very definite local or structural form; but there is nothing analogous in what may be called their general features, or in their course or termination, to those definite forms and modes which characterise acute diseases.

A large proportion of chronic diseases may, indeed, be said to have no special or distinct form at all, consisting, as they do, of such ill-defined and various disorder of various functions, that it is impossible to characterise them by any special features, or to give them a distinctive name. And, indeed, it will be readily admitted by all physicians of experience, that a large proportion of the most important chronic diseases which they are called upon to treat, have in reality no nosological synonym, and could hardly be included in any definition that did not embrace almost all the functions of the body. Of such cases you may write a history or give a detailed description, but you cannot make a definite picture, as you can do of an acute disease.

It will be thus seen, at once, that it is impossible to trace the progress of chronic diseases upwards or downwards in the mass, in the same definite way as we can trace that of many acute diseases. In order to obtain anything like a clear idea of the processes taking place in the former, we must examine each individual disease by itself.

CHAPTER VI.

OF THE NATURAL TERMINATIONS OF DISEASES, AND THE MODES IN WHICH THEY TAKE PLACE.

Among the numerous and manifold miseoneeptions respeeting the natural history of diseases prevalent in the publie mind, and, I may add, in the mind of professional men also, there is none greater than that whieh regards the termination of diseases, espeeially aeute diseases. In the ease of chronie diseases, and of slight diseases of all kinds, most persons are prepared to admit that a eertain proportion of eases may end favorably—in other words, may terminate in health—when abandoned entirely to Nature. In the ease of severe diseases, however, more espeeially aeute diseases, and most of all in inflammatory and febrile diseases, the predominant opinion is that, if left to Nature, the great majority of eases would prove fatal, the reeo-

veries witnessed being regarded as almost entirely the consequence of the interference of Art. That such should be the opinion of non-professional persons is not at all surprising, when we consider what is the ordinary source of lay notions respecting diseases and their treatment. It may seem, however, somewhat strange that, with their opportunities of judging, such an opinion should be also that of the professors of the medical art. Yet that it is so, is not only to be inferred from the extreme reluctance universally evinced to trust the event of such cases to Nature, but from the recorded opinions of practical authorities. And yet the facts of the case are entirely at variance with such a statement.

Even in the instance of the most fatal of acute diseases, as in Asiatic cholera, plague, and yellow fever, we find a considerable proportion of the sick recover, under every variety of treatment, and alike under nominal as real treatment. The half, the third, or fourth part, of those attacked by such diseases, who recover, are, generally speaking, restored by the powers of Nature alone. In less fatal diseases, as in ordinary inflammations of the viscera or membranes, as in inflammations of the lungs, liver, pleura, peritoneum, &c., whether left entirely

to Nature or treated by means incapable of controlling them in any way, we find a still larger proportion of cases terminating in recovery, more or less perfeet.

In the zymotic or poisonous eruptive fevers, as in smallpox, measles, scarlatina, &c., it is now universally admitted to be impossible to check their course; and all our most experienced and most enlightened practitioners agree that the terminations, whether favorable or unfavorable, are only very slightly modifiable by treatment; and yet we find a large proportion of such diseases always terminating in restoration or health.

Looking minutely at the terminations of disease, sueh as we meet with them in ordinary medical praetiee, we may say that they may be of four different kinds, at least :

1. The disease, after exhibiting the phenomena eharacteristic of it, in a certain regular or irregular series or suecession, and within a definite or indefinite period of time, gradually or suddenly ceases to exist, the affected parts returning to their normal condition of structure and funetion. This is the termination of acute diseases in health, in its pure form.

2. Sometimes, after presenting appearanees of a similar kind, and running a somewhat similar eourse, the disease deereases in intensity without entirely passing off, and eontinues for a eertain but indefinite time in a mitigated degree, either in the same general form or in a form mueh altered from the original; but eventually passing off, as in the former ease, leaving the body restored to health.

In its seeondary or mitigated form, the disease is said to be *chronic;* and this is the way in whieh a eonsiderable proportion of the elass of ehronie diseases is formed.

3. In the two eases just mentioned, the inherent powers of the animal body suffiee to reetify all the derangements that have taken plaee in it; and the organism then proeeeds with its normal or natural aetions as before. In a third mode of termination, the morbid eondition, however originating, eontinues for an indefinite, always a long, period, so as to eome, at last, to eonstitute almost a permanent or habitual state of the system; a state of disease, eertainly, yet not altogether ineompatible with the performanee of the more material funetions of the body, and therefore not neeessarily putting an end to its vital manifestations, in a very obvious and

direct manner. Such a state of invalidism, however, does frequently lead to death; and it also may, and does frequently, terminate in perfect health.

The kind of affection here noticed may be regarded as the more genuine form of chronic disease.

4. In the fourth and last mode of termination, the derangements constituting disease are incapable of being arrested or set right by the inherent powers of the organism, and, being incompatible with the due performance of the actions on which life depends, this necessarily ceases, and with it all the depraved actions constituting disease as well as the normal actions characteristic of health: all close in Death.

The foregoing enumeration of the modes of termination of diseases is far from containing all which a still more critical examination of the subject would enable us to define and name; and in a complete treatise on the natural history of diseases it would, no doubt, be proper to notice the whole. In the general and slight sketch of the subject, however, which alone is here attempted, such minuteness is not merely unnecessary, but would be improper. Indeed, in the present work, it is not

our purpose to eonsider all these, even superfieially; but to eonfine ourselves to the exposition of the broader outlines of the two grand terminations, whieh inelude all the rest—the termination in Reeovery, or Health, and the termination in Death.

It is unneeessary to say how frequently diseases terminate in death; how inevitably, indeed, they do so. In looking even superfieially at the great seheme of Providenee in peopling the earth with living beings, it is elear that the duration of eaeh individual existenee was intended to be of limited extent, being eireumseribed within certain fixed bounds, in every partieular type or speeies of ereature. Means must, therefore, have been appointed for bringing about this result in every individual ease, throughout the whole of nature.

The means whieh have been provided for this purpose seem all to eome under one or other of the following heads: 1. Old age, or the gradual decay or stoppage of the maehinery of life, when the period of duration apportioned to the elass to whieh the individual belongs, has been approaehed or reaehed. 2. Aeeidents or injuries taking plaee at any period of the individual's existenee, and direetly,

and more or less suddenly, arresting or destroying life. 3. Disease strictly so called, or disorder of the structure or functions of the body, carried to an extent sufficient to arrest or destroy life.

It need hardly be said that it is quite incorrect to admit, as we have here virtually done, that all the deaths that take place in old age arise from natural decay and not from formal disease; the contrary being so notoriously the case. But even on this assumption, and on the further admission that deaths from the second class of causes (accidents) are much more numerous than they are in reality; it must be obvious that there would still be left an immense proportion of the causes destined to terminate the lives of men to be accounted for; and this proportion must necessarily be included under our third head of means. It would seem to follow as a corollary to this proposition, that a certain, even a large proportion of human diseases must necessarily have a fatal termination.

It would be a most interesting, and, practically speaking, a most important piece of information, if we could be made acquainted with the exact proportional mortality of diseases generally, when left to their natural course. This is the sole kind of

knowledge which could enable the physician to speak with certainty as to the medical art having any power to cure diseases that would otherwise prove fatal; or of the amount of this power if it exists; or of the existence and amount of its opposite power, that, namely, to *increase* the mortality of diseases (which all must allow to be possible), if such should be one of the attributes of the medical art. Without this knowledge, indeed, ascertained on the grand scale, it is impossible for medical practitioners to regulate many important points of practice generally, to judge of the value of particular methods of treatment, or to institute a safe prognostic in any case of severity.

The records of Physic, as well as other records of a non-professional stamp, contain much information on this important point, if it were all collected and methodised in a sound statistical form; and I would here throw out the hint, that a more useful task than this could hardly engage the leisure of a young physician.

The larger portion of the materials of such a work must necessarily, at present, be derived from the records of ordinary medical practice, and must therefore be regarded as, to a certain extent,

vitiated through the interference of Art in each case. This source of vitiation, however, would, I suspect, be found of much less importance than is usually believed, and would still leave the results, if not quite pure, yet pure and sound enough to constitute a most valuable standard of comparison.

A standard absolutely true, or, at least, absolutely free from suspicion, can only be constructed from cases of disease not submitted to the appliances of Art, or, at least, not submitted to appliances that could be rationally deemed capable of materially modifying them; and the possession of such a standard we must be content to leave to our successors. That it will be constructed, however, sooner or later, it would be impossible for any one to doubt, who is aware at once of the necessities and tendencies of our art in the present day.

Considered as an abstract fact, nobody can for a moment doubt that Nature possesses the power of curing diseases; in other words, no one can doubt that diseases, when left to themselves, often terminate in recovery or health. Every one must have had experience of the fact, either in his own person or in that of others. A boil, the inflammation arising from the sting of a wasp, from the prick of

a thorn, or from other slight accident, are examples of local disease which every one has seen to be removed without the interference of Art; a catarrh, a bilious headache, a diarrhœa, are instances of disease of a more general kind, which all have known to disappear or be cured, under similar circumstances. But the case is very different with diseases of a graver character. In attacks of these, in modern times and civilised countries, there is always more or less interference by Art, in some of its forms, rude or disciplined, applied with the professed object of Curing; so that it becomes impossible for unprofessional persons, however observant, and often, even, for professional persons, to say whether the result, if favorable, has been brought about by the one agent or the other; or, if by both conjointly, how much of the cure is attributable to the one and how much to the other.

In the next chapter it will be our particular business to exhibit, on a large scale, the capacities of Nature to cure diseases, whether slight or severe. In the present our object is to strengthen the reasons heretofore advanced in favour of the probability of such a result, by exhibiting, in some detail, the ordinary modes in which Nature cures

diseases. These modes will all be found, like all the previous proeesses of disease, to eonsist of vital aets preeisely the same as, or preeisely similar to, those of health.

The most enthusiastie advoeates for the power and dignity of the medieal art, will hardly go so far as to assert that, but for it, all diseases must terminate in death. To maintain sueh a proposition would not only be in opposition to the plainest faets, but would be at varianee with all that we know of the essential self-eonservatism of organie existenee throughout nature. And it is impossible to peruse even the rude and imperfeet sketeh we have given in the preeeding ehapters, of the nature of diseases and of the mode of their formation and deeay, without aeknowledging, *à priori,* a probability, reaehing almost to eertainty, that sueh must be the ease. It would be strange if we were to believe the eonsummation in death to be the work of Nature, and yet refuse her the privilege of restoring health.

In attempting to arrive at positive statisties as to the extent of the terminations in health, of diseases left to the guidanee of Nature, we are met on the threshold by a diffieulty of a formidable kind. In the ease of unfavorable termination, or termination

in death, the task of computation is comparatively easy, as, generally speaking, we have simply to take account of all the fatal results ensuing in diseases, and place the sum total as the amount of mortality for which Nature is responsible.

A severe critic, it is true, proceeding on principles of rigid logic, might demur to this conclusion on the ground that, in the present day, in civilised countries, the proceedings of Nature are almost always interfered with by Art, and, consequently, that a proportion of the deaths may be owing to this interference, and, therefore, not be necessarily the sole work of Nature. The logic must be received as good; and I am prepared to admit that the inference is, to a certain extent, correct. I have, indeed, no doubt that a portion of the deaths supervening to diseases treated by Art, are the direct produce of this art. I think it, however, equally certain that such instances constitute so small a proportion of the whole, that they may be almost disregarded in the general estimate; and consequently that we may still regard the statement that Nature is the great, if not the sole, cause of death in diseases, as sufficiently accurate for admission into the category of medical facts.

On turning to the other side of the question, the terminations of diseases in health, we find a very different condition of things presented to us; or, at least, we find the circumstances under which the investigation takes place, and the conclusions to be drawn, very different. Here the interference of Art is universally recognised as not only modifying the results, but modifying them to a great degree and on a large scale; wherefore it becomes requisite, in the first place, to institute a new process of examination, and a much more rigid sifting of the premises, before we can be brought to admit—if we ever can be brought to admit—that a perfectly analogous conclusion, if one not quite so stringent, is justifiable in this case as in the last, namely, that restoration to health, speaking generally, as well as death, is the work of Nature.

The foregoing are some of the modes in which diseases are removed; and a little reflection on the phenomena that take place during the removal of others, enables us to conceive other modes by which the same result is brought about. In certain diseases, however, we witness the same event of cure, but are entirely ignorant of the steps by which it is produced.

In an extensive class of diseases, some of them of severe, but many also of more moderate intensity and shorter duration, the morbid state terminates immediately or speedily on the removal or cessation of the exciting cause, just as in physics or chemistry any motion or action ceases on the withdrawal of the agent producing it. Affections of this kind come naturally under different heads, and may be arranged as follows :

1. Diseases or disorders excited by the immediate action of foreign injurious matters on the vital endowments or physical properties of the internal or external surfaces of the body. The following are instances :

a. Morbid affections arising from the presence of matters in the stomach taken as food or drink, or administered as poisons or medicine ; removed by the discharge of these matters by the natural processes of vomiting or purging.

b. Morbid affections produced by the presence of obnoxious matters, gaseous, liquid, or solid, in the air-passages ; removed by the withdrawal of the cause (as in the case of an irrespirable or irritating gas), or by its forcible expulsion by coughing, &c. Under this head we may also reckon the more

general effects on the system arising from the inspiration of various agents, commonly administered for medical purposes, but which may also be of accidental and involuntary application : *e.g.*, æther, chloroform, tobacco-smoke, stramonium-smoke, opium-smoke, &c.

c. Affections of the eyes and nostrils from foreign bodies, removed by the effusion of the natural secretions of the parts, or by their natural physical action.

d. Painful and other morbid affections of the skin and external organs of sense, arising from the application of irritating or other disturbing causes, and removed by their removal. Under this head may be ranked the primary effects of extreme heat or cold, those arising from various irritants, such as mustard, cantharides, &c. ; also substances acting more generally through the nervous or vascular system or both—as certain narcotic substances.

It is evident from the nature of each individual case, *how* the *cure*, if it may be so called, of these various affections is brought about. In most cases nature relieves herself by an obvious conservative operation ; in others, as in some of the cases in paragraph *d*, there will be sometimes an incapacity in the body itself to remove the cause.

2. Disorders resulting from over-aetion, voluntary or foreed, of various organs or parts of the body:

a. Of this kind are extreme fatigue and exhaustion from exeessive museular exertion removed by rest; the same or similar states produeed by want of food, removed by taking food.

b. Temporary disorder of portions of the vaseular system from exeessive museular exertion, removed by the eessation of this.

c. Disorders of the nervous and vaseular system, that is, funetional diseases of different organs, from over-aetion of the brain, or moral eaüses, removed by the removal of these.

In this last eategory of eases the individual ean often relieve himself from the disease by simply willing the eessation of the eause.

3. Diseases resulting from various morbifie agents introdueed into the blood from without, through the stomaeh, skin, or otherwise, or generated in the system itself, and removed by the removal or elimination of them through the various outlets of the body, after or without previous deeomposition. This elass eomprehends the whole of the diseases whieh we have denominated *poisonous*, and whieh are of a mueh more severe eharaeter and of mueh

longer duration than the affeetions notieed in the two preeeding paragraphs.

In this eategory of eases, though there ean be no doubt of the two faets stated above (at least, as to the great majority of the instanees)—that of the termination of the diseases ensuing on the elimination of the poison eausing them, and that of the aet of elimination being the exelusive work of Nature,—it is far from being elear how Nature proeeeds, or what preeise proeesses she employs, in effeeting this result in the different affeetions enumerated. The explanation or theory that dates from the very origin of physic, as it is the simplest, is probably also the truest, although it ean hardly be admitted without some exeeptions. This explanation is that whieh we have just now applied to some of the simpler eases of disease or disorder, viz., the rejeetion of the offending eause by a simple natural reaetion of the affeeted parts, as when the stomaeh rejeets by vomiting the matters that offend it, or the respiratory organs ejeet by the proeess of eoughing or sneezing, offensive matters introdueed into them; or the eye ejeets the grain of sand or other mote fallen into it, by an inereased flow of tears and instinetive movement of the organ; or the intestines ejeet matters

which offend them, by a flood of mucus secreted for the purpose, and by an augmentation of the natural peristaltic or muscular action of the organ.

That precisely the same principle is operative in the cure of all poison-diseases can hardly be doubted; although, as already observed, we may not be able to understand the whole of the processes by which Nature brings about the effect; and, although we may even regard some of these as not simply unnecessary to its success, but as actually interfering, for a time at least, with the direct object of the elimination, and even hazarding or destroying life itself.

In the case of smallpox or scarlatina, for instance, we may completely assent to the proposition, that the primary phenomena of the disease are the result of a conservative reaction excited in the system by the poison for the purpose of its expulsion, although this reaction may have the effect of immediately endangering or extinguishing life, instead of expelling the offending agent; or may eventually produce in the system secondary results leading to the same event. But so, in like manner, the efforts of vomiting for the beneficial purpose of ejecting a poisonous or other offending body from the stomach,

may produce rupture of a vessel in the brain, or a fatal intestinal hernia; yet no question can here exist as to the conservative or curative purport of the ventricular reaction.

In the case of the contagious exanthemata, such as smallpox, there is probably something in the character of the poison itself which interferes with the success of the primary conservative reaction for its expulsion. This class of poisons seem to find in the fluids into which they are introduced in the animal body, the means of growth or reproduction so that they are enabled to produce by their augmented mass, and probably by their increased power consequent on this augmentation, a degree of morbid impression or positive physical injury entirely beyond the control of the simple conservative reaction excited by their presence in the first instance. In a large proportion of cases, however, even this augmentation of the morbific cause, with all its secondary effects, is eventually found to be within the control of the natural conservative powers of the system; and the enemy is finally, after, it may be, a long and mortal struggle, defeated and expelled.

In some cases of the simplest form of

poison-disease, such as that produced by the presence of a metallic poison incapable of reproducing its like, we can trace the whole course of the process of cure from the introduction to the expulsion of the cause; and can observe how the morbid phenomena preserve an immediate and direct relation to its physical presence, commencing on its first introduction, or on its having attained sufficient intensity from the amount of dose or lapse of time necessary for its morbific action, lasting while it remains in the system, and ceasing on its expulsion.

In certain cases of metallic poisoning the poisonous substance is probably, in some cases, expelled unaltered; but in others it may be partially or entirely decomposed. In other cases, as in the disease of intoxication and in delirium tremens, the poison being of vegetable origin, seems to be always, in part at least, decomposed within the body by the natural processes going on there; and the morbid phenomena cease on the extinction of the particular form or combination of matter in which the morbific properties reside. In this case, there is no doubt that a portion of the poison is also expelled unchanged, for instance, through the lungs, as it can be detected in the expired air.

A seeond mode in which diseases terminate in health, is by the simple eessation of the morbid aetions, in accordance with that physiological law of animal bodies, that all aetion is of temporary duration, or subject to intermissions. And I cannot give a better explanation of this prineiple, or illustrate it more briefly and elearly, than by borrowing the following statement from Dr. Alison's admirable 'Outlines of Pathology:'

"As we know that all vital aetion is but of limited duration in any strueture in which it resides, and that a general law of *intermittence* of aetion, or alternation of aetivity with repose, applies to all the ehanges going on in the healthy state of museles and nerves, as well as in the diseased aetions peeuliar to these parts, we cannot be surprised to find that other and more obscure morbid actions should be subjeet to a similar law; and, in faet, we cannot attribute to any other eause (*i. e.*, we cannot refer to any other more general fact) the spontaneous deeline either of the loeal ehanges which eonstitute inflammation, or of the more general ehanges whieh produee idiopathic fever; or the slower or less eomplete, but still perceptible remissions of morbid

actions often observed in chronic and even in organic diseases" (p. 44).

This observation, it is true, rather records a matter of fact than gives any explanation of the manner in which it is brought about. And it is as certainly true that in a large proportion of the class of functional diseases, and in almost all nervous diseases strictly so called, we can rarely come closer to the explanation of their mode of cessation or removal, than we are led by the bare statement here made. In some of the instances, however, mentioned by Dr. Alison, we have a closer view of the manner in which Nature proceeds to effect her purpose, when she has once resolved to set about it —if I may use such improper, yet intelligible language,—that is, when she has chosen to stop or intermit the morbid actions constituting the essential part of the disease; as, for example, in the next class of cases.

In all the structural or organic diseases that are curable, the restoration of the affected part to the normal state is produced by the most ordinary and obvious operations of the healthy system, and especially by those of secretion and absorption; in other words, by the complex function of nutrition

modified for the occasion. We have already stated, at some length, the exact processes by which this result is brought about in local inflammations, and to this the reader is referred. All other forms of morbid growth or morbid deposition in the tissue of organs, if removeable at all, are removed by one or more of the same natural or normal processes.

The few remaining classes of disease which we intend to notice, we shall consider individually, without attempting to refer their natural mode of cure to any general principle.

The affections coming under the head of serous effusions, or dropsies, are, when removeable, removed by an increased action of the absorbents naturally present in the part; and this increased action is generally preceded, accompanied, or followed, as its cause or consequence, by an increased natural action of some secretory organ, particularly of the kidneys.

The mode in which Nature cures hemorrhage varies in the different forms of the disease. In one form, which may be termed *active*, that, namely, in which the extreme vessels pour out their fluid in a sort of orgasm, by their own direct action, all that

is requisite to effect a cure is the mere cessation of the morbid action, the capillaries thereupon returning to their normal condition and the blood being circulated through them as before, not poured out from their extremities.

In that form which depends upon a formal breach of substance in the canals containing the blood, and which, in contradistinction to the other, may be termed *passive,* the mode of reparation adopted by Nature is very different. Here she first plugs up the morbid opening by simply coagulating the blood in the vessel in the first place, and then instituting a strongly nutritive or semi-inflammatory action around it, by means of which the breach is permanently consolidated. This process is witnessed on a large scale in the case of arteries of considerable size, when cut asunder or partially ruptured by mechanical means. The cure thus often effected by Nature may, no doubt, be greatly aided by Art, through pressure on or ligature of the wounded vessel; but the real or permanent cure is, in both cases, the work of Nature, and almost identically the same in both.

Traumatic diseases, among which we comprehend all forms of wounds and fractures originating

from without, as well as spontaneous ruptures in the interior of the body, &e., are all eured by the nutritive and formative proeesses slightly modified, viz., by the effusion of lymph, its growth and solidification by vaseular nutrition, and subsequent deposition of a material similar or analogous to that of the injured part.

As was formerly notieed, diseases are also removed in a natural manner by numerous proeesses set up in or near their site, or at great distanees from them, as by the aetions termed Derivation, Determination of blood, Viearious funetion or seeretion, Metastasis, &e., all of whieh proeesses, it need hardly be remarked, if not purely normal in their speeialities and degree, are altogether normal in their general nature. All of them, and indeed all the others hitherto notieed, "are [onee more to use the words of Dr. Alison] proofs, not of a peeuliar healing or eonservative power being lodged in animal bodies, but of the general laws of the animal economy being so instituted, that many eauses of injury, whieh would otherwise be fatal, are resisted and overeome" (p. 46).

The eireumstanees under whieh diseases terminate in reeovery or health, are still more numerous

and various than those under which the terminations in death occur. We can only enumerate a very few of them in this place:

In some few cases, as in certain forms of nervous diseases, the return to health may be almost instantaneous, and may occur at any period of the malady, with scarcely any other manifest change, except the cessation of the malady.

In other cases, almost as sudden a return to health may ensue, at any period of the disease, under the manifestation of some great natural effort, or the supervention of some other slighter disease, soon passing off.

More commonly, however, acute diseases terminate in health by the gradual subsidence of the symptoms or morbid phenomena; such subsidence, like the rise of the phenomena, being various as to the period of its occurrence, and its particular form, according to the nature of the malady.

Diseases essentially chronic, whether originating in acute diseases or arising imperceptibly in obscure derangements, as they have often no very definite form, so they may be said to have no natural limit. Their course, as implied by their name, is slow and prolonged; and, as a general

rule, but one with many exceptions, they may be said to terminate slowly and imperceptibly in health.

We have already seen that diseases, when not terminating fatally, may have other terminations besides that which is strictly termed health; though when viewed in relation to the other great termination, death, it is hardly worth while to class them under a distinct head; we may, at most, speak of these terminations as being in imperfect health.

CHAPTER VII.

EVIDENCE IN FAVOUR OF THE CURABILITY OF DISEASES BY NATURE.

Although no one doubts the power of Nature to eure many slight and even some severe diseases, there yet exists in the minds of the members of the medieal profession, and still more strongly in the minds of the publie, a most unjust appreeiation of the extent of this power. As, however, it is, in the highest degree, important to both parties that an exaet, or, at least, an approximative estimate of it, should be obtained, it is proposed to attempt to do something of the kind in the present ehapter.

In looking for evidenee on this point it is natural to examine, in the first plaee, those fields whieh are ealeulated to supply it in the greatest purity, namely, sueh as present the least possible amount of the interferenee of Art. It is with these, eonsequently, that we shall eommenee our inquiry.

I. One of the first instanees that naturally oeeurs to the mind, is the great field presented by the pathology of the inferior animals. In the ease of wild animals we have but slight knowledge either of their diseases or of their results, exeept, perhaps, as to the healing of wounds inflieted by the hunter, and as to some faets attending pestilential visitations. Wounds, we know, of the most desperate kinds have been repaired in them by the natural proeesses, as proved by the examination of their bodies, when afterwards killed by the sportsman or found dead from other eauses in their native haunts.

In the ease of fatal epidemies, it is known that many more animals are affeeted with the disease than die of it; eonsequently, all those restored to health must be so restored by the power of Nature alone. The more severe and more fatal the pestilenee, the more valid must be the power that ean eontrol it, even in a minority of eases.

Here we have no room for that equivoeal reasoning whieh is always used in the ease of human epidemies. In these, all the eases having been treated by Art, there is an obvious opening for pleas in its favour, in the instanees of reeovery; and, indeed,

speaking generally, not only are such pleas preferred, but the recoveries are constantly set down as positive results of the power of Art.

Evidence equally authentic of the power of Nature in curing epidemic diseases among domesticated animals, as in the case of horses, cattle, and sheep, is occasionally to be met with, either where, from special circumstances, no medical treatment has been possible, or where, from circumstances of another kind, such treatment has not been had recourse to.

In a third class of cases of this kind, in which some sort of treatment has been employed, a similar inference is equally warranted, on the ground that the treatment was either quite nugatory or was injurious; but here, of course, there is still some opening left for the arguments of those who maintain, at all hazards, Art's potency and Nature's impotency in the cure of all diseases, human and bestial.

Such judges may, indeed, have warrant for their doubt, or even for their positive verdict, in the instances where the doctor has attacked the disease of his four-footed patients, with bloodletting and purging, and all the other weapons of veterinary heroism; but we hope they will resign to us and

Nature, without mueh struggle, some of the eases, at least, in whieh no more energetie practice has been had recourse to than placing in the stall some wytch-elm, tying on the tail some red threads, anointing the hairy hide with the creature's own dung, or even making a slit in the ear with a rusty pair of seissors.

Of many other diseases of animals that might be adduced as evidence of the same fact of Nature's autocracy, I will only notice one whieh must have eome within the personal observation of most persons—I mean ophthalmia in dogs and horses, espeeially the former. Sueh eases, to be sure, are often treated by Art, with lotions, &c., whether administered by amateurs or by professed animal-doetors, and are, so far, obnoxious to the eharge of affording equivocal evidenee only; but pure eases of the sort have been witnessed by most persons, in whieh the result, whatever it might be, was ehargeable to Nature alone. I have myself repeatedly witnessed the rise and progress and termination of a very severe disease of this kind, in dogs unsubjected to any treatment, and yet terminating in a perfect cure without the slightest opacity or defeet of vision —although at one period of the malady the loss of

the eye, or, at least, of vision, seemed inevitable. Cases of this kind are the more valuable in the present inquiry, as their character is unequivocal; the whole morbid process, both in its growth and subsidence, being subject to the evidence of the senses.

In thus adducing evidence from the inferior animals in favour of the self-cure of diseases in man, I am well aware that the knowledge so obtained can, in strictness, be regarded only as analogical and inferential, not as absolute and positive; inasmuch as we have no right to assume that what takes place in animals, will and must also take place in man. The analogy, however, is so strong, and the inference so consonant with known truths, that no reasonable man will hesitate to accept the results derived from this source, as in the highest degree corroborative of the belief that the same power exists in the human subject.

It would be unsound logic, and it might indeed be untrue in fact, to assert that the autocratic power of healing possessed by animals must be possessed in the same form and degree by man; but it is a simple matter of fact that there is a similar power existing in both; and it is most

logical to reason from the one to the other as to the general nature and result of the processes.

In some respects the field of disease in animals may be said to offer even better opportunities for studying the powers of Nature, than the same field in man,—inasmuch as the former may be regarded as in a greater measure free from the disturbing effects of the *psychical* element, which we know to interfere so materially with the organic processes in man's body. All physicians are well acquainted with the power of the mind in modifying the diseases of man, as by hope or fear, joy or grief, confidence or distrust in the treatment, &c.; whereas, in animals, the results, whatever they may be, in cases not treated by mechanical remedies, must be received as the simple product of the organic processes. It seems, indeed, probable, that the great difference of the psychical element in animals and in man, may occasionally make the results in similar cases in the two creatures different in degree; but this can, in no respect, detract from the abstract value of the evidence afforded by the former field.

II. A second field—and one presenting not merely inferential, but positive and unequivocal evidence of

the power of Nature to cure human diseases—is that supplied by the medical history of savage or uncivilised nations. The reports of travellers and of residents in such countries leave no doubt of the fact, that of the diseases occurring among such people, the greater portion that have a favorable issue (and the number is great) must owe this entirely to the inherent powers of the body. It is no doubt true of most savage nations, that the natural instinct to seek relief from suffering—which relief they could not immediately see within themselves—has given rise to a kind of Medical Art, and to the same distrust of the power of Nature as we see existing among ourselves.* Some of the means sanctioned by such art no doubt are highly perturbative; and the cases in which they are employed must consequently be removed from the field of Nature into the equivocal region of Art, and can therefore afford us no positive, but only relative assistance, in our present inquiry. Even such means as one person might think entirely injurious in their operation, might be claimed by others as beneficial.

* Dr. Winterbottom tells us that the Africans have no faith in the power of Nature to cure diseases.

Cases, therefore, in which any energetic interference, good or bad, has taken place, had better be left entirely aside, and those alone be considered which have either not been treated at all, or treated in a way that could not influence, beneficially at least, the natural processes. And of this kind of cases we have an abundant supply : some few being left entirely untreated ; a larger portion being treated only by superstitious charms ; and perhaps an equal number being treated by some preparations of indigenous herbs possessing no medicinal powers.

We have ample evidence that, under such a state of things, diseases both of an acute and chronic nature are perfectly recovered from ; although it is equally true that many are not recovered from ; and that of this last category a certain proportion of patients are lost, which might probably have been saved in civilised countries under the influence of the medical art.

The necessary origin of the medical art is well exemplified by the medical history of all savage nations ; no people having yet been discovered among whom there is not the semblance of such an art, and only a few where there are not special professors

more or less exclusively practising it. In the early life of most nations, religion and physic have gone together, both being equally practised by the priests or cunning men or conjurers, the spiritual guides of the vulgar. This was the case with the ancient Egyptians, with the Britons, and the North American Indians; and was, indeed, the case with the Christian nations of Europe in the early ages.

Next to the spiritual doctors in practice come the old women, who even now, in civilised countries, have no slight occupation in this way among the humbler classes of all countries.

Among some savages, as the natives of the Tonga Islands, according to Mariner, no internal remedies are used, but merely external and chiefly surgical means, their whole medical treatment consisting of invocations and sacrifices to their deities. Here, at least, we may safely take the results as Nature's, whatever they may be; and we are assured that if often unfavorable, they were also not seldom the contrary.

Among the sacrifices intended to procure relief from disease, some were curiously impersonal: in the case of a middling great man, a finger or two would be amputated from one of their dependants;

but for a chieftain nothing less would suffice than the strangling of a child.

In many parts of Africa, witchcraft is believed to play the most extensive part, both in causing and in curing diseases; and it is at least certain, that under its ministration they come and they go, as elsewhere; the *post-hoc-ergo* mode of reasoning being as much in vogue here as in the medicine of civilised countries.

We are told by Tavernier of a mode of expelling diseases practised by the wise women of Circassia, almost as vicarious as the Tonga practice, and it is allowed to be equally effective. "Elles tâtent d'abord le corps du malade, et principalement la partie qui lui fait mal, elles la manient et la foulent plusieurs fois, *pendant quoi elles laissent aller des rots* de leur bouche, et plus la douleur du malade est grande, plus ces femmes-la font de gros rots." The patients and public, of course, believe that the efficacy of the remedy (*rots*) is in proportion to its force.

The *Saphias* or charms used by the Africans are equally efficacious. One popular form of these, mentioned and prescribed by Mungo Park, consists in writing the charm on a board, and drinking the

matter of the words when it has been carefully washed off; a mode of practice very analogous to and, we doubt not, as efficacious as that of the Homœopathists, who, in point of fact, if they adhere rigidly to the original Hahnemannian dose, do literally prescribe words and not things.

A peculiar mode of curing the ague, we are told by Hasselquist, existed in the Morea in his time, which, though very comfortable to the patient, must be very obnoxious to the horticulturists of the country where it is much practised: the patient has merely to lean against a peach-tree during the fit; the ague is cured, but the tree is killed! This the author reports on the authority of an eye-witness!

But besides these supernatural interferences of savage nations with the workings of Nature, the great majority of them employ more formal remedies, consisting principally of their own indigenous plants in the form of powder, infusion, or decoction. Some of these have, no doubt, a certain degree of power to act on the functions of the healthy body, and may, therefore, be capable of modifying them when disordered; but the great majority of them have no such power, and consequently cannot possess any

speeial virtue in mitigating or euring diseases. This might be reasonably inferred from the simple fact of the remedies almost invariably eonsisting of the indigenous plants of the particular loeality. For, if we admitted the validity of such a source of remedies generally, we might at once include in the category of drugs almost all the vegetable produetions on the surfaee of the globe. Dr. Bowdieh names no fewer than thirty-seven native plants used as drugs by the people of Ashantee alone—nearly the whole of them being destitute of medieinal properties.

III. The state of medieal knowledge and of praetiee among nations in an imperfeetly civilised state, both in ancient and modern times, has afforded and affords the same kind of evidence in support of the autocraey of Nature in healing diseases. Among many of the civilised nations of the ancient world, as the Israelites, the Romans, and Greeks, through a considerable portion of their history, the order of physicians did not exist, the treatment of diseases being left to the priests, and being, generally speaking, of sueh a nature as could hardly have any beneficial influence at least.

Even in the original sehool of the great Hippocrates himself, the means more eommonly

employed in the treatment of diseases, were almost nugatory, and. certainly incapable of changing the natural course of diseases whatever that might be; a circumstance to which we are disposed to attribute a good deal of the success of the Hippoeratic practiee when eompared with the results obtained in the more perturbative schools of subsequent times.

It is true that all the Hippocratie practice was far from being equally inert; measures of the most perturbative kind being occasionally employed, and, indeed, constituting an established portion of its armoury. Its main fundamental eonstituents, howcver, were of quite a different eharaeter, being regiminal rathcr than medieinal; eonscquently the rcsulting treatment eould, at most, be auxiliary to Nature's efforts, and would in no case supersede them.

For ages after the Romans beeame a eiviliscd people, the medical art was virtually unknown among them, and had no professors. Even in the time of Pliny, though physieians were then tolerated, thcy seem to have been regarded rather as a nuisance than otherwise. They were obviously held of no account, as he thus speaks of them: "Diseunt periculis nostris et per experimenta mortes agunt."

And yet, notwithstanding this state of things, we do not learn that the mortality from ordinary or extraordinary diseases was so mueh greater in those times, as to contrast strongly with the results obtained under the organized system of physie subsequently introdueed. Many, no doubt, died; but many also reeovered; just as we witness in modern times.

Even in modern times, and in eountries somewhat more eivilised, we find the great majority of the eommon people still left, in a eonsiderable degree, to Nature, or to the eare of persons utterly ignorant of rational art. This is the ease with all the oriental nations, ineluding the immense dominions of China and Turkey.

Nay, even in Christian Europe, in these present times, while the towns groan under the load of superfluous doetors, and the inhabitants groan under the load of superfluous physie administered to them, many of the remoter and less populous eountry distriets are often virtually without medieal adviee, the inhabitants in their siekness having to rely mainly, if not entirely, on the skill of the old erones of the village, with their warm eordials and herb-tea from vegetables of their own vieinity.

Under sueh management, no doubt, persons die

who might recover under a better treatment as regards regimen, &c.; but still, everybody who has had an opportunity of witnessing such things must admit that a large proportion of the patients recover: the common remark being, "It was wonderful to see how many did struggle through their severe and long illnesses."

IV. A more limited but an equally authentic source of evidence in favour of Nature's ability to cure diseases, is found in the history of isolated individuals, or isolated bodies of men, of greater or less extent, who have been attacked with sickness under circumstances in which no medical aid and no medical appliances were procurable. The published narratives of travellers supply many instances of this kind.

The history of shipwrecks, in which men were thrown upon savage or uninhabited coasts, furnish similar evidence on a larger scale. In instances of this kind, men have been known to survive the severest fevers and other diseases, even under the most unpromising circumstances of defective food and shelter, in the most inclement weather and under the influence of the most depressing emotions.

The domestic history of our commercial navy,

especially in former times, when little care was taken to provide against siekness, supplies matter of the same stamp in abundanee. Even in the present day, in vessels too small to earry surgeons (the great majority), siekness, in various forms, not seldom occurs, especially in long voyages; and it is well for the patients if they are left to Nature's eare, and not prescribed for by the captain or eook, according to the heroie notions of physic usually prevalent among sailors. And yet we often hear that men so cireumstanced do survive to tell the tale of their recovery, in spite both of the disease and the treatment.

V. Another source whence the desiderated information has been obtained and is still obtainable to a eonsiderable amount, are eertain systems or modes of practiee which have been prevalent at different times in the history of physie, and which, from their inertness, injuriousness, exclusiveness, or other peeuliarities, allow of no other inference than that the reeoveries, when they have taken place, are to be attributed to Nature alone. Into this category it would not be unfair to receive a eonsiderable proportion of the most celebrated doctrines that

have prevailed in physic since the days of Hippocrates; not so much on the ground of their non-interference with Nature, as on the ground of their being productive of as much harm by what was bad in them, as of good by what was good: thus leaving the balance still to be swayed by Nature or the internal powers of the living body.

Some of these systems, however, have supplied evidence of a less equivocal kind, and need little or no sifting or weighing to show on which side of the question it bore and bears. Of this kind is especially that practical doctrine, known in modern times by the name of "Expectation," or "The Expectant System," and which, originating in the profound sagacity of Hippocrates, has been adopted, in a greater or less degree, by his wisest followers down to the present time.

Of this system the variety termed Pure Expectation, affords a most unexceptionable field for obtaining such results, and on the largest scale, seeing that it is still followed to a very great extent, in many diseases at least, even by medical men, in various Continental countries, and by the wise women, the prescribers for the poor in the rural districts of all countries.

It will hardly be doubted by any practical

inquirer that the agencies commonly employed under this system—the potions and ptisans—chiefly infusions and decoctions of vegetable substances of no medicinal power whatever, can, in any material degree, modify the morbid conditions of the body in the cases in which they are employed. And yet, what do we witness as the result of such treatment? Sometimes, no doubt, protracted and lingering diseases, which might probably have been shortened by the rational interference of Art, and sometimes deaths, which probably might have been prevented by treatment of a more positive kind; but also many and striking recoveries from even the severest diseases, not a few of which, there is good reason to believe, might have failed to take place under a more active and perturbative system of treatment.

Under this head of Expectation we may include numerous non-medicinal plans of treatment that have been or still are in vogue in different countries, and which are far from unfruitful in prosperous results. Of this kind are the grape-cure; the milk-cure; the whey-cure; goat's-milk cure; vegetable diet; change of air; sea-voyages; land-travel; mineral waters, so called, but which possess no active ingredients; &c.

Under the same category I might bring a large proportion of the cases that are, after the failure of more active means, submitted by our surgeons and physicians to long-continued courses of our so-called vegetable alteratives, such as sarsaparilla, cetraria, dulcamara, taraxacum, uva ursi, &c., but I refrain from including the results obtained in such cases under my present category of natural results. The potentiality of the remedies logically forbids this, though the whole evidence might make the conclusion practically justifiable.

VI. Leaving the domain of legitimate medicine, we find an ample field for gathering evidence of a similar kind, in the proceedings of the numerous race of impostors and quacks to be found in every age and in every country. That the proportion of persons who, in any given community, intrust themselves when sick to the exclusive operation, or non-operation, of publicly advertised quack remedies, is very great, must be admitted by every one who is aware of the immense extent to which the practice of advertising in our journals is carried. Nothing but a clientship of the widest range can explain the existence of so expensive a system; and that a very

considerable number of persons recover from their diseases under every form of such medication, is a fact that admits of no question. And the fact is to be found—though I know nothing of its relative frequency—alike under heroic as under expectant quackery; under the drastic discipline of Morrison, as under the gentle rule of the life-promising Parr; with Dr. Townsend and his Sarsaparilla, as whilom with the great Solomon and his Balm of Gilead.

It is of no use to attempt to ignore such results. There are few medical men who have seen much practice, that have not had occasion to know of them from the unquestionable testimony of their friends, or even to verify them by more direct evidence. A patient, seen for the first time labouring under some grave malady, tells his physician, on being questioned as to previous medical attendance, that he has had none, he having trusted to such or such a quack-nostrum, the domestic stay of the family in sickness. "It is odd," the patient will add, "that it seems to have failed with me on the present occasion, though it has cured my wife of the same complaint, and always cured me on former occasions."

Homœopathy comes obviously under the head of cases now being considered; but it is so important

a link in our chain of evidence as to deserve a special notice.

VII. Besides the evidence derived in the aggregate from the more formal systems of treating diseases displayed in the voluminous records of practical medicine, the same authorities supply us with innumerable detached facts bearing on the same subject of Nature's autocracy; some recorded purposely as so bearing, but the greater number, though equally valid as evidence, being adduced under views and with intentions entirely different. No one that has, with whatever object, turned over the pages of the huge folios and quartos of our learned predecessors of the sixteenth, seventeenth, and part of the eighteenth centuries, but must have had his attention arrested by numberless cases of this sort, cases in which, whatever was the treatment, all that was favorable in the results could be attributed to the powers of Nature alone. I do not here cite any cases of this sort; but I rely on the testimony of all medical men who have indulged in this kind of literature, to bear me out in what I have stated.

Indeed, it is not necessary to go so far back for evidence of a like kind; as similar cases will be

found in the books of most modern medical authorities who have had occasion to place on record many individual histories of diseases.

A still more prolific source of similar evidence is furnished by the modern medical journals of all countries—now accumulated to a huge mass—which constitute the theatre on which young practitioners usually exhibit their first literary efforts. It is true that the cases so recorded are too generally treated heroically, to furnish pure evidence; but, to compensate for this defect, they often supply evidence of a still stronger kind, by showing not simply the power of Nature to overcome natural disease, but to overcome this and the artificial disease superadded by the energetic ignorance of the practitioner.

The same medical records also occasionally supply us, though in smaller amount, with cases of disease purposely left to Nature, or treated only by means known to be inert, with the express view of testing the powers of Nature.

In these cases the results are unequivocal in establishing the power of Nature.

A vast amount of evidence derived from this source—though, for obvious reasons, not formally recorded—exists in medical tradition and in the

unwritten testimony of medical men. I could supply a good deal myself. When old Dr. Warren, in answer to the question, "What will cure acute rheumatism?" replied "Six weeks," he merely expressed what his experience had led him to know of the relative power of Nature and Art in this disease. The same kind of testimony was given, and on a wider scale, by another celebrated professor, who, on being told that a new sect (the Homœopathists) had sprung up, which cured diseases by infinitesimal doses of medicine, replied that he himself had long been in the habit of doing more than this, viz., curing diseases by none.

Medical books of all times, and more especially the modern periodical publications just referred to, furnish us with much evidence of another and less direct kind, but which is scarcely less demonstrative of the autocracy of Nature. I refer to the reports of the treatment of the same epidemic disease by different writers, as of typhus fever, scarlatina, smallpox, cholera, &c. In many recorded examples of this sort, we find the most opposite treatment employed in the same epidemic and in the same locality, and yet the results, on the large scale, are nearly the same as to duration of the disease, mortality, convalescence, &c. As we

eannot believe that agents of an entirely different nature and operation can bring about precisely similar results, we are bound to look for some common power, existing in the different cases, to account for what would be otherwise inexplicable. The only power of this kind, present and active in all the cases, is that of Nature; and to Nature, therefore, we must refer the general aspect of the events, whatever they may have been.

VIII. But of all the examples of the autocracy of Nature in curing diseases, supplied by the records of medicine or by its actual practice, there is none which, in point of extent or in force of evidence, can compare with that furnished to us by the new school of practice known by the name of Homœopathy. Since the establishment of this system, now more than thirty or forty years, an immense number of the sick in all civilised countries have been treated according to its precepts and practice; that is (according to the opinion of the best judges, in which opinion I entirely concur), nominally by drugs, but actually left to the resources of Nature, or at most aided, it may be, by regimen and faith.

This is not the place for inquiring into the truth

or falsehood of the Hahnemannie system of medieine, our business having only relation to the mode of praetiee ineuleated by it. It would be easy, however, to show that, though as ingenious and as plausible as some other theories that have prevailed in medieine, it is, like most of them, utterly baseless as a doetrine of general applieation, and in its avowed praetieal prineiples not merely unphilosophieal but impossible. It ean be demonstrated that the treatment legitimately derived from it, of preseribing infinitesimal, in other words, imaginary doses of drugs, is utterly ineapable of modifying the animal organism in any way, exeept through the medium of the patient's mind, or by means of the dietetie or other regiminal means with whieh the treatment may be eombined. Henee, we have a right to assume that all. or nearly all, the results exhibited in the praetiee of the Homœopathists, are the produet of Nature's operations alone, or of these operations aided by the two kinds of ageney mentioned, regimen and the expeetation of the patient.

In proof of the immensity of the field of observation thus thrown open to the student of Nature's operations in disease, we have merely to advert to the faets known to all—of the vast body of praeti-

tioners now following this system in all the countries of the world, and the number of public institutions devoted to the treatment of the sick according to its doctrines.

And yet, what is the character of the results obtained under this system of imaginary medication in the cure of diseases? When fairly weighed, do not these results exhibit, if not quite as large a proportion of cures as ordinary medicine, still so large a proportion as to demonstrate at once the feebleness of what we regard as the best form of Art, and the immense strength of Nature in the same office?

Although it may be true that there are in the ranks of the Homœopathists, as there may be in the ranks of our more legitimate brethren, men who are altogether ignorant, mercenary and not to be believed,—men who practise their art as a trade, and practise the trade dishonestly; although it may be even probable that the proportion of such persons in the homœopathic ranks is greater, owing to the greater temptations and greater facilities to quackery supplied by that system;—still it cannot be denied that there are among Homœopathists men who have embraced its doctrines from conscientious motives, and pursue its practice with the

same benevolent desire to benefit their patients, that actuates the followers of the ordinary system of medicine. In numerous reports of practice published by gentlemen of this stamp, the results of treatment are stated to be favorable; and I do not think the truth of these results, as far as regards mortality and recovery, ought to be, or can be, denied, whatever opinion we may entertain as to the influence working the results.

But independently of this evidence, we have surely a most powerful argument in favour of the admission that an average amount of recoveries takes place under this system of treatment—in the fact that no public outcry has been raised against it, on the score of inefficiency, and yet more, of greater mortality. If it were really true, that a markedly greater amount of lingering cases, and especially of deaths, took place under this new treatment, surely the important fact would have been discovered ere this time, in a field of treatment now so wide, and watched over by so alert an array of critics on every side. But I venture to say that this has not been the case.

No doubt, every one hears of such failures and such loss of life, in the treatment of homœopathists,

and hears them attributed to their peculiar practice; and this may be occasionally a truth; but we hear the very same accusations brought against the most orthodox practitioners; and it is only just to take the same evidence in the one case as in the other; and when this is done, I do not find that the accusation is much more easily justified on the one side than the other.

It must not be supposed from this statement, that I am of opinion that Homœopathy is as capable of curing diseases and saving life as the most rational practice of the other school; on the contrary, I am certain that in chronic diseases more especially, this do-nothing system falls very far below that of the rational practice of rational medicine, in its curative results. Every one must have seen the striking evils resulting, in particular cases, from the non-employment of aperient and other remedies obviously indicated. I merely maintain that, on the common and obvious evidence usually admitted in such cases, a sufficiently large number of cases get well under this system of treatment, to prevent the existence of any striking contrast, in the public eye, between its practical effects and those of the ordinary system; and, at all events, and

à fortiori, to justify the only conclusion I am now anxious to establish—viz., the fact that a large proportion of cases of disease recover under homœopathy —that is, according to my views, recover by means of the curative powers of Nature alone.

Before entirely dismissing the subject of homœopathy, I cannot help remarking, that though in itself one of the greatest and most singular delusions that has ever been entertained by the professors of the healing art—and this is saying a great deal—the lessons derived from it have been of vast benefit to the professors of our rational system of medicine. The favorable practical results obtained by the homœopathists—or, to speak more accurately, the wonderful powers possessed by the natural restorative agencies of the living body, demonstrated under their imaginary treatment—have led to several other practical results of value to the practitioners of ordinary medicine. Besides leading their minds to the most important of all medical studies, that of the natural history of diseases, it has tended directly to improve their practice, by augmenting their confidence in Nature's powers, and proportionally diminishing their belief in the universal necessity of Art, thus checking that unnecessary interference

with the natural proeesses by the employment of heroie means, always so prevalent and so injurious. It has thus been the means of lessening, in a eonsiderable degree, the monstrous poly-pharmaey whieh has always been the disgraee of our art—by at onee diminishing the frequeney of administration of drugs and lessening their dose.

IX. The evidenee supplied by the various sourees indieated in the preeeding pages—and it would be easy to add to the number—ean leave no doubt on the mind of any one of the truth of the general faet of the suffieieney of Nature to eure most of our eurable diseases without any assistanee from Art; although, unquestionably, sueh eure may be faeilitated and rendered more rapid, in many eases, by the applianees of Art, either in its regiminal or medieinal form. Sueh evidenee, however, being, for the most part, only historieal, and obtained, as it were, at seeond-hand, will aequire great additional foree and vivaeity if sustained by the personal testimony of those who admit its general validity. And sueh testimony, most assuredly, lies bare and open to all who praetise the medieal art, or who have opportunities of witnessing it as praetised by others.

It is neeessary, however, to remark, that although patent to every observer, the evidence is far from being obvious to or aecepted by all. In truth, this is so far from being the case, that only a very small minority of those whose hands and eyes are daily conversant with it, can pereeive it at all.

This statement may seem strange to some persons; but a little reflection will show how such a result is brought about. As in religion and politics, and in those departments of knowledge which are not of a positive or demonstrable kind, early and long-continued education, comprising not merely direct instruction, properly so called, but the influence of habitual example, deference to seniority and superiority, unconscious imitation, &c., induce conventional belief of the strongest kind—strong as demonstrated truth itself—and create a sort of wizard circle of power, beyond which the mind of the disciple, however bold, scarcely ever dares to wander;—so, in medicine, the great majority of practitioners retain the same doctrines and pursue the same practice which they learned in the schools; or, if changing both doctrine and practice, as time and fashion dictate, hold fast, at least, the great fundamental doctrine, impressed upon the very core of their

professional heart, viz., that the interference of Art is essential in all cases, and therefore never to be foregone.

It need not, therefore, surprise us that it is only a very small minority of medical practitioners who, in ordinary circumstances, can see in diseases the true workings of Nature through the artificial veil which conventionalism and professional superstition have thrown over them.

But still, in all the cases mentioned, men are to be found, who, through natural or accidental causes, do break through the bonds of conventionalism, and, with unsealed eyes, seek for and find truth, under all the false disguises in which she is presented to them; not, indeed, because the intellectual powers of such men are necessarily stronger or more acute, but because they have been so combined by Nature, or so modified by circumstances, as to give to them a different direction. Men of this stamp, in the course of their medical practice, sooner or later have their eyes opened to the true condition of the things before them, and judge of the operations of Nature and Art in the cure of diseases, not according to any preconceived rules, but according to the conclusions forced upon the unprejudiced mind by the simple facts daily passing before it.

The conviction of the great autocracy of Nature in the cure of diseases, derived from this source, is much more widely spread among the senior members of the profession, than is at all believed by the great body of practitioners. It is this conviction influencing their proceedings, that so often makes the practice of these men obnoxious to the charge of inertness from their younger brethren. They are accused of being as inactive as "old women," and are indeed accounted as such by the whole band of heroes fresh from the schools, as well as by those of maturer age, whom experience has never taught to doubt respecting the conventionalisms of their early training.

It is as an old member of this inert fraternity, and as the expositor of doctrines sanctioned by their opinions and practice, that I have ventured to take upon myself my present task; and I feel assured that, if I were allowed to adduce the many eminent names who join with me in opinion, whether from the ranks of living or dead physicians, the doctrines I venture to promulgate would meet with much readier acceptance from the profession and the public, than they are likely to do under the authority of any individual. At any rate, I

must be allowed to appeal to the enlightened experienee of such men, as one of the most fruitful and valuable sources of evidenee in behalf of the truth of the proposition under consideration, to wit, the great and extensive capaeity of Nature to cure diseascs, with little or with no assistanee from Art.

It would greatly increase the value of the preeeding statements if we could add to them anything like a trustworthy estimate of the aetual extent of Nature's powers in euring different diseases. This, however, in the present state of our knowledge, is only practicable in an inferior degree. To attain positive results on a large seale, we must possess a history of individual diseases through their whole course, such as they show themselves pure from the interfcrcnce of Art—in other words, we must possess a true natural history of discases.

That such a history is attainable, even in the actual condition of praetical medicine, seems to me perfcetly clear, and I entertain no doubt that it will yet be attained. Many of the fields notieed in the preceding pages, if properly eultivated, suffiee of themselves for this purpose; and others, of equal or still greater fertility in pure results, I feel assured will, erelong, be added to the list, through

the neccssary tcndencics of speculative and practieal medicine, now awaking from its long torpor of conventionalism. The events of diseases under the system of pure homœopathy, if faithfully recorded on a large scale, and for a lengthened period, would alone suffice, in my opinion, to give the required knowledge. To a certain extent this has been already done, in respect to several diseases, by homœopathic physicians; but many considerations weigh in the minds of medical men generally, against the admission of such records as supplying undoubted evidence of undoubted facts.

With some there remains the lingering doubt that the infinitesimal doses may possibly, after all, have some power on the system or the disease, and so may modify the natural results. Others, who altogether deny the efficacy of the Hahnemannie doses, believe that some of the practitioners who have published the results of their practiec, have not faithfully adhered to their professed system, but have secretly prescribed their remedies in sensible quantities, that is, in allopathic doses, and so have really produced modifications of the same kind as those which ordinary medieine is eapable of effecting. Some, again, go so far as to believe

that not a few of the published records have been intentionally falsified, with the purpose of enhancing beyond the truth the value of the new practice. A much more positive objection, in this line of argument, lies against the results obtained by the members of that new school of heretical homœopathy, which, while adhering to the fundamental principles of Hahnemann, repudiates his posology and prescribe their remedies in sensible doses. This heresy, it is important to observe, is greatly on the increase; consequently the value of the so-called homœopathic results, as evidence of Nature's powers, will henceforth be of much less value than in the days of honest, unmitigated Hahnemannism.

No doubt these objections are, to a certain extent, valid; and may justify those who have not personally investigated the proceedings of homœopathists, in refusing to accept the recorded results of their practice as evidence of Nature's unassisted powers. But such objections are not sufficiently valid, to cause rejection of the evidence by those who have studied the subject of homœopathic practice personally, and who have examined critically its published documents. On the contrary, enough of positive truth can be gleaned from the evidence so

supplied, mixed as the mass of facts is with much uncertainty and not a little of positive falsehood, to authorise not merely the broad general conclusion formerly accepted, as to the power of Nature to cure diseases, but to supply us with much important evidence as to the particular extent of that power in individual diseases.

No doubt it might be easy to devise plans for arriving at the desiderated results, that would not be liable to such objections, affording facts comparatively pure and unsuspected; and I anticipate, as I have already said, the institution of such plans on a large scale. Plans of this kind, indeed, have been already instituted, on a small scale, by not a few sceptical and critical inquirers; and have been already productive of large results, recorded and unrecorded, available to those who have themselves made them, or know where and how to seek for them.

The one great result obtained from the study of these various authorities, is this—that the power of Nature to cure diseases is infinitely greater than is generally believed by the great body of medical practitioners and by the public generally. So great, indeed, is this power, and so universally

operative, that it is a simple statement of the facts to say—that of all diseases that are curable and cured, the vast majority are cured by Nature independently of Art; and of the number of diseases that, according to our present mode of viewing things, may be fairly said to be curable by Art, the far larger proportion may be justly set down as cured by Nature and Art conjointly. The number of diseases cured entirely by Art (of course, I omit in all these statements *surgical* art) and in spite of Nature,—in other words, the number of cases that recover and would have died, had Art not interfered,—is extremely small.

We shall see, in the remaining chapters of this work, which treat of the Medical Art, that the statement just made is far from being tantamount to saying that this art is powerless and useless. It will be there shown that the Medical Art has a noble and most beneficial part to play, in its true character of a handmaid and helper of Nature; although it may seem shorn of some of the heroic attributes with which ignorance and early superstition may have falsely decked it.

CHAPTER VIII.

OF THE EXISTENCE AND GENERAL NATURE OF THE MEDICAL ART.

In the preceding chapters it has been attempted to show, at least in outline, what are the characteristic phenomena which constitute diseases in the human body; how diseases originate; what is the manner of their growth or progress, and their end; and how, while ever a source of incapacity and suffering when present, they often destroy life prematurely. The course of the subject I have undertaken to treat, now naturally leads me to institute the inquiries which are to occupy the remaining chapters of this book—namely, whether, or to what extent, the ingenuity and skill of man have discovered or invented any means whereby the phenomena constituting diseases may be averted or modified; the distresses induced by them mitigated

or put an end to; the termination in death prevented or postponed; and the termination in health facilitated, accelerated, or made more frequent; we shall also have to inquire what these means, if existing, are; and what is the extent of their power to effect any or all of the results enunciated. In other words, we shall have to inquire whether there is such an art as the Medical Art; what are its nature, its mode of operation, its instruments, and its powers.

Although it might, no doubt, be strictly in accordance with logical precision, to begin such an investigation as we are contemplating with an inquiry as to the very possibility—to say nothing of the probability—of such an art as the Medical Art, it must be at once felt by every class of readers that any formal inquest of the sort would be not merely superfluous, but impertinent.

Facts illustrating not merely the possibility of such an art, but demonstrating its reality and power, must be familiar to every one; and the observation of such facts must, of necessity, have led to its recognition, even in the earliest times.

When an individual purposely avoids doing an act which past experience had shown to be usually

followed by bodily suffering or disorder of any kind, this avoidance is an instance of the class of facts with which the Medical Art has to do, in its preventive branch. Whoever advised such avoidance, was, to this extent, fulfilling the office of a physician; and if immunity from suffering or disorder was the result of the advice given, the fact was a proof not merely of the possibility but of the existence of the art, in an elementary state at least.

Again, if the same individual whom we have supposed to have escaped illness by taking the steps necessary to prevent it, had not taken those steps, and had, in consequence, become the subject of temporary suffering or disease, and had found relief from this by the administration or application of some simple means; here we should have, at once, not merely a proof of the possibility of the Medical Art, in its curative branch, but an illustration of its nature and mode of action, and even of its importance as an art ministering to the comfort and relief of man.

The most trifling disorder and the rudest treatment will suffice to show this. For instance, let us suppose the disorder to be simply pain of the stomach from improper food; and the remedy, an

emetic of salt and water, or mustard, or ipecacuanha, giving rise to vomiting ;—the conclusion in favour of the existence and action of the Medical Art, is as strong as it would be in the severest disease.

The modifications that may be produced in the structure and functions of the animal body in health, and in the phenomena constituting disease, by extrinsic means at man's disposal, are very remarkable. In the state of health, the structure and action of parts may be so altered as to give rise to great and varied disorder or disturbance of function, to manifold forms of bodily and mental incapacity and distress, and even to death itself. In disease, the morbid phenomena may, in like manner, be modified and in a variety of ways, for good or for evil. Their severity may, in some cases, be mitigated to the degree of perfect order, and ease, and restoration ; or may be so aggravated as to occasion intolerable distress and the destruction of life.

But although every kind of modification of the phenomena of disease produced by an extrinsic cause, is an illustration of the possibility of such an art as the medical, and of the way in which it may establish its relations with the living body, it

is only when the artificial interference with the natural processes is conducted in a formal manner, and with the object of preventing, mitigating, or curing diseases, that it is entitled to the name of Medical Art.

To enable us to comprehend the origin, progress, and final recognition of the Medical Art, as a distinct object of intellectual study pursued among civilized men, it is hardly necessary to look into history. The slightest reflection on such common incidents as those above noticed, coupled with what every one knows of the frequency, causes, and character of ordinary diseases, must show that the rise and establishment of such an Art was inevitable.

One of the commonest and most imperious instincts of our nature, commands us to eschew impending suffering, and to escape from it if already inflicted; and one of reason's most immediate offices is to suggest and fabricate means in order to enable us to consummate such instinctive desires. It must follow, therefore, as a matter of course, nay as a necessary consequence of the existence of disease, that the Medical Art in some form or other, must have been coeval with the very origin of society, or even with the existence of adult and

rational human beings on the earth. "Nam et vulnus deligavit aliquis antequam hæc ars esset: et febrem quiete et abstinentia, non quia rationem videbat, sed quia id valetudo ipsa eoegerat, mitigavit."*

Like all other arts, the Medieal Art was, of course, rude at first, its truths and its rational applianees being profusely intermixed with errors and evils and absurdities of every kind, derived from ignorance, from fancy, from false observation, false inferenee, and espeeially from superstition. From its very nature, however, and from its foundation in the pains and sufferings of mankind, it was an art not likely to be undervalued or neglected, and, eonsequently, was likely to grow and improve as fast as experienee and knowledge, and its own nature, eould allow of progress. Aeeordingly, we find that the earliest reeords we possess of the Medieal Art, in its formal state, those, namely, of the aneient Greeks, represent it as already in a high degree of advancement; that is to say, far advaneed towards the highest eondition which it has sinee attained.

If we exeept the arts of seulpture and arehitee-

* Quintil., Instit. II, 18.

ture, and perhaps painting, which reached such an incomprehensible elevation at an early period among the Orientals and Greeks, it may be even doubted if any other of the arts had then arrived at a degree of progress so nearly approaching their present condition as the medical art.

We have, to be sure, since then made infinite progress in the construction of new views, in the discovery of new remedies, in the acquisition of new facts, in exposing old errors, and in moulding out of many sciences not then in existence a grand and imposing code of doctrine, under the general name of Medicine; yet, when we come to compare our actual practice in diseases common to our age and country and to the age and country of Hippocrates, with the practice of that great man, and place the results of the two modes of treatment side by side, it is surprising, not to say humiliating, to observe how very small is the advantage on our side.

And yet the Medical Art, as it now exists, has much to boast of. Although our inquiries may tend to show that the estimate of its powers, both as to kind and degree, entertained by the public generally, and by a large majority of the members of the profession, is, generally speaking, much too

high; it would be doing it great injustice not to place it as only second in importance to the arts which minister primarily and directly to the support and maintenance of human life. In some respects it is even the equal if not the superior of these; inasmuch as it can lay claim to the power of preserving and continuing life when all other arts and appliances fail to do so; or can render life still comfortable and happy, when, without the aid supplied by it, the world would be but a scene of prolonged suffering.

The inquirer who should undertake the study of diseases, merely with a view to ascertain their quality, their various relations to one another, their causes, mode of origin, progress, and event, without attempting in any way to influence their manifestation and course, would be taking a most important step towards acquiring a kind of knowledge which is essential to the professor of medicine; he would not, however, be thereby entitled to the name of Physician, nor would any of his proceedings come within the scope of the Medical Art. He would be merely a student or cultivator of the natural history of disease; a natural historian—a man of science.

To entitle any one to the name of physician or professor of the Medical Art, he must, in addition to the natural or scientific knowledge mentioned, profess not merely to influence, by Art, the natural phenomena which have been the subject of his study, but to be able (occasionally, at least) to prevent them, and to modify them in such wise as shall be for the ease and benefit of the person in whose body they are manifested. The very essence of the Medical Art is to relieve suffering; and it is this which has given to it its ancient name of the most noble and god-like of all the arts.

All the objects contemplated by the Medical Art may be classed under two heads: 1. The Prevention of Diseases; 2. The Mitigation or Cure of Diseases.

I. Although there can be no doubt that of the two objects of the Medical Art that of the Prevention of Diseases ought to be regarded as the superior —inasmuch as it is a greater boon to humanity to have sufferings altogether averted, than to have them relieved or removed after being borne—it has always happened that the second, or the Cure of Diseases, has been that to which the Medical Art has mainly

addressed itself; it being characteristic of man, speaking generally, to be less solicitous about evils of a prospective kind than about those actually present. Such a preference, however, is unquestionably no less a mistake than a misfortune; and it can hardly be doubted that one of the greatest triumphs yet in store for Practical Medicine is the transposition of a large portion of the attention of physicians from the last object to the first.

If the future more precise experience of enlightened physicians, and the sure advance of medical science, must tend, as it is believed they will tend, to lessen considerably the confidence in the powers of medicinal therapeutics at present entertained by medical men, it cannot be doubted but that an ample compensation both to medicine and humanity, will be found in the proportionate development of the hygienic or preventive department of the art.

But however much overlooked and neglected from the beginning the hygienic department of medicine may have been, it has never been entirely lost sight of; and has, on many occasions, presented such brilliant results, as have, at the time, demonstrated its importance and dignity; and indicated,

though perhaps only darkly, the high consideration it is destined to attain in the future.

During the present century, at least, statesmen, as well as the professors of medicine, have had their attention turned much more to sanitary measures of a general kind, than in any previous period of man's history. The practical movement hence originating, though yet merely inchoate, has already acquired such an impulse as must issue in great results; and it cannot be doubted that such results in public hygiene must necessarily direct attention to domestic and individual hygiene; so that while the services of a large body of the members of the medical profession shall be claimed for the former, the attention of the private practitioners will be devoted in an equal degree to the latter, that is, to the prevention of disease in households and in the individuals constituting households.

Such a consummation as this is, no doubt, remote; but, though remote, it is no less sure; and among the reasons that have led to the prosecution of my present task, is a conviction that juster views of the nature of the Medical Art and of its powers than are now entertained, both by the profession and public, must necessarily tend to accelerate the

advent of such a desirable revolution in medical practice.

Hygienic or preventive medicine may be divided into several departments according to the special objects towards which it is directed.

(1). It may be called Public or General, when its purpose is to preserve health generally, by removing general sources of disease. It may also come under the same head, though occupying a more circumscribed range, when the subject of it is the amelioration of the sanitary conditions of public establishments, as ships, hospitals, jails, factories, schools, &c.

(2). It may be called Domestic, when its object is to regulate the arrangements of individual houses, as to site, draining, the size of rooms, warming, ventilation, &c.

(3). It may be termed Personal, when it undertakes to regulate the conduct and habits of individual men, with a view to the preservation of their personal health, amid the ordinary contingences of life.

(4). A more limited and special exercise of this last branch of it, is that in which it interferes to prevent the spread of special diseases to individuals or the community generally.

Of the admirable power and effieaey of this department of the Medieal Art, in all its braneles, no doubt ean exist in the mind of any one who knows anything of medieal history, or who has paid attention to the eommon sanitary operations, publie and private, passing under his own eyes. Of the poteney of the medieal art, in its hygienie form, to strike at the root of most of our febrile and many of our inflammatory diseases, and thereby to save life in the best manner, that is, without the penalty of previous suffering, there ean be no doubt; and if the attention of soeiety were but onee fully given to the subjeet, and the exertions of the professors of the art, thereby diverted from many absurdities and impossibilities that now engage them, were fully turned into this rational and legitimate eourse, the saving of life would be sueh as would not only modify our tables of mortality, but affeet the fortunes of nations. The results that have already flowed from the little that has been hitherto attempted in this department of the Medieal Art, leave no doubt of the incaleulable vastness and value of those that might be not merely expeeted, but eertainly ealeulated on, if the hygienie proeesses were earried out to their possible and praetieal extent.

II. The second object contemplated by the Medical Art is the modification of existing diseases in a way beneficial to the patient, as by shortening their course, lessening their severity, or freeing the body entirely from them. The fulfilling, or attempting to fulfil, this class of objects, constitutes what is termed Curative Medicine, and comprehends by far the larger part of the ordinary duties of medical men; the avocation of the physician, indeed, being commonly said to be the mitigation or cure of diseases, not their prevention.

That this object, the relief or cure of diseases, is one which the Medical Art is capable of accomplishing, and does actually to a certain extent accomplish, admits of no question, and will be readily acknowledged as a fact by every man of observation and experience. Indeed, there is scarcely an individual who in such slight cases as wounds and bruises, heartburn, constipation, &c., &c., has not had the fact demonstrated to him in his own person.

If we pass to that noble department of the labours of medical men termed Surgery, the illustrations of the efficacy and power of the Medical Art are found in much greater number, of a much more positive kind, and of higher importance.

Surgery, indeed, must always be admitted to exhibit the least equivocal successes and the most splendid triumphs of the Art.

When we see the life that is manifestly ebbing away from a bleeding wound, instantaneously saved by the ligature of an artery; when we see the displacement of an organ or limb, producing in the first place most distressing pain, and necessarily leading to permanent incapacity or death, removed, at once, by the skilled manipulations or by the knife of the surgeon; when we see, in the case of a portion of the body crushed into hopeless disorganization by external violence, or smit with a mortal gangrene that cannot be stayed, the dead or diseased portion severed at once from the organism it would have destroyed, and life so saved and health restored; we need no reasoning to prove to us the reality and potency and inestimable value of an Art which can do such great and admirable things. It is, indeed, to such feats as these,—it is to Surgery, even taken as a whole,—that the practitioner conversant only with internal diseases, and possessing no other means of combating them but the feeble and uncertain armoury of drugs, must often look up for consolation in his difficulties, in his blind gropings,

and amid the insignifieant or dubious results of his labours. It is a perpetual eomfort for him to know with eertainty, that, in one of the fields of its display, at least, the noble Art he professes leaves no room for doubt as to its vast powers, or as to the inealeulable good worked by these in the eause of humanity; and this knowledge yields, moreover, a perennial and lively stimulus to his exertions, by fostering the hope that the time may yet eome when the treatment of internal diseases may attain something of the like eertainty and power.

Even in its inferior departments, Surgery is eharaeterised by the eertainty of its results, and their unequivoeal and high value. Amid the eountless blessings for whieh soeiety in modern times is indebted to the wonderful progress of the arts, there are few that eoneern personal eomfort more nearly than those derived from the art of the surgeon-dentist, more espeeially in the eonstruetion of artifieial teeth. To restore some of its lost beauty to the human faee divine, is, in itself, no slight boon to weak humanity; but to re-ereate in the aged, after it has been destroyed by time, the power of perfect mastieation, is a gift of inealeulable value, and ean only be duly appreeiated by those who have reeeived it.

CHAPTER IX.

INSTRUMENTS OF THE MEDICAL ART.

Regarded in its widest sense, the armoury of the Medical Art may be said to comprise everything capable of affecting or modifying the living animal frame, whether in its physical, chemical, psychical, or physiological relations. In its more ordinary and restricted sense, it comprehends all those agencies, of whatever kind, which are capable of being used for man's good, in shielding him from diseases, or in beneficially modifying them when they attack him.

The first of these two definitions may be justified by this consideration,—that certain means not at present known to possess any power to modify the living body, and others known only as possessing powers to modify it injuriously, may yet come into the

category of beneficial agencies or remedies, as the past history of medicine has often shown to be the case with other substances.

In the ranks of the medical profession, there will always be found advocates for the employment of both these classes of agents; and perhaps it is for the benefit of the medical art that this should be the case. We may find reasons hereafter for wishing that more of our medicinal agents in common use were less potent or of feebler modifying powers than they really are; and, consequently, that it would be no subject of regret if this innocent class of remedies were increased. On the other hand, not a few medicinal agents primarily and for a long period known only for their injurious effects, have been eventually discovered to possess remedial powers, and now constitute valuable accessions to the Materia Medica,—justifying the old saying —which, however, is not always true—*nil prodest quod non potest lædere idem.* But the patrons of this potent class of agencies—too numerous at present—must not forget that, in our art, it is not mere modifiers of the animal system we desiderate in our agents, but beneficial modifiers—that is, for the good of man's estate. It is of no use to change

the mode of action of a disordered machine, unless the change should so operate as to put something right that was previously wrong. As matter of fact, it must be acknowledged that our actual officinal lists of the Materia Medica do contain many agents which, if not entirely inert, are incapable of producing any modifications of a perceptible kind, certainly of a positively beneficial kind; also others, whose action, as far as at present known, is solely of an injurious or detrimental sort. It will be seen hereafter that neither the one nor the other is necessarily to be rejected on this account.

The agents or instruments available by the Medical Art in fulfilling its objects, may be all, I think, comprehended under the following heads:

1. Regiminal means.
2. Physical means.
3. Pharmaceutical means.

I. Regiminal means.—The term here employed to designate our First class of means, is far from being accurate, and is especially too restricted to comprehend properly all the agencies we shall have to bring

under it. We employ it, however, for want of a better, merely giving it a more extensive application than ordinarily belongs to it. This class comprises a vast number of means of very various and even opposite qualities and modes of action. It may, indeed, be said to include everything capable of affecting in any way the living body, excepting the things included in our Second and Third classes, viz., the Physical and Pharmaeologieal agents.

It is customary for medieal writers to regard the ageneies now under consideration, not so much in the light of curative means as of prophylactic and hygienie means. But it is a great mistake to exclude this kind of agents from the class of positive remedies; as it is a vulgar and most injurious error to limit the treatment of diseases to the administration of drugs or medicaments strietly so called.

That the agents of the regiminal elass are the principal and most effeetive means in the preservation of health and prevention of disease cannot be questioned; but they are equally valuable as curative agents in the treatment of actual disease, when properly applied and in the proper cases. The following are some of the prineipal of these regiminal

means, set down without any attempt at accurate classification :

1. Means which influence the sensations directly, and thereby modify the organs, their seat, or the sensorium, and, through these, other parts of the system.

a. Means affecting the sense of Smell : strong and pungent odours in hysteria, syncope, &c.

b. Means affecting the sense of Taste : pungent and acrid substances chewed to excite the salivary glands; condiments in food to excite appetite; matters of strong or disagreeable taste in liquid medicines, to impress the mind of the patient with faith in the power of the remedy, &c.

c. Means affecting the sense of Hearing : loud sounds, to stimulate the mind and to prevent sleep, &c. ; low monotonous sounds and silence to induce sleep ; music to soothe the mind in melancholy, &c.

d. Means affecting the sense of Sight : strong light to excite the mind and prevent sleep; darkness to depress and favour sleep; the sight of monotonous mesmeric passes, or fixed attention on an object (Mr. Braid), to produce mesmeric sleep or hypnotism.

e. Means affecting the sense of Touch: gentle friction to soothe irritation and produce sleep; titillation to excite and agitate; pain produced by stimulants and irritants, to rouse and excite the mind in soporose affections whether produced by narcotics or natural.

2. Means acting directly on the mind (or its organ) and influencing it, or other parts of the body through it. This is an important class of remedies, occupying a much larger space in actual therapeutics than is commonly believed, and deserving to occupy one still larger. Their operation is fully as powerful and effective in diseases of a purely bodily character, as in the diseases of the brain commonly called mental. These agencies are so numerous and so varied in their character, that they can only be noticed in this place in the most superficial manner. They would seem, at first sight, readily divisible into two classes, according as they affect the Emotional or the Intellectual parts of the mind; but these parts have such intimate relations and such a close mutual action one on the other, and both so equally influence the general bodily functions, that such a division cannot be made subservient to

praetieal purposes. The following are some of the psyehieal ageneies that eome under this head. They operate by inereasing mental tranquillity or satisfaetion, and by exeiting feelings of an animating and eheerful kind, whieh stimulate the brain in the first instanee, and through it the organie and vital funetions throughout the body.

a. Augmented hope in all things that interest the patient, as in his domestie relations, his worldly eireumstanees, and espeeially in his health.

b. Augmented faith, as in the skill of a new physieian, in a new method of treatment, in the powers of the patient's eonstitution, &e.

c. Augmented eheerfulness indueed by the removal of, or removal from, disagreeable things; as altering one's servants or one's establishment, removing from home to a new seene, removal from a disagreeable to an agreeable position, &e.

d. Deerease or entire eessation of mental labour injurious by its nature or too great extent.

e. Introduetion or augmentation of mental labour, when this is defieient; substitution of a kind of labour more suited to the normal mental powers of the patient, or to their present abnormal condition.

f. The inspiration of new motives for mental activity, by the institution of new occupations, new speculations, &c.

g. The instilling motives for taking increased bodily exercise and more fresh air, and for adopting new bodily and mental habits more conducive to health.

h. The soothing and tranquillising a conscience troubled in itself by real or imaginary misdeeds, and so troubling, directly or indirectly, the bodily functions.

In several of the cases here indicated, the physician may be effectually aided by coadjutors of another class, as by lay friends, and in the case last mentioned by the clergy.

3. Other means chiefly external.—Under this head come to be considered the two following classes of means:

a. The exposure of the patient to the open air, or his seclusion from it; the quality of the air without and within doors, as to moisture and dryness, temperature, &c.; the nature of the soil and climate of the district; the qualities of the particular locality where the

patient is plaeed; the strueture and plan of the house; the size of the rooms; the ventilation and temperature of the apartments oeeupied; the nature and amount of intereourse with friends; when eonfined to the house, whether eonfined to bed or allowed to sit up; nature and amount of elothing, in bed, in the house, out of doors.

b. Regulation of the diet, of the elothing, sleep, bodily and mental exereise, in the house or out of doors; bodily exereise, aetive and passive—walking, riding, driving, rowing in a boat; speeial exereises—running, leaping, elimbing, wrestling, digging; exereise of games or sports—erieket, tennis, fives, quoits, and daneing; indoor oeeupation—reading, its kind; musie; mental exereise, its kind, amount, &e.

II. Physical means.—This seetion of our remedies eomprises ageneies of very different kinds, whieh are here plaeed together simply beeause they do not eome eonveniently into any of the other three divisions. They are not very numerous: but some of them are to be regarded as among the most potent instruments of the medieal art. I shall set them down without any attempt to elassify them.

1. Extraction of blood by arteriotomy, venesection, leeching, cupping.

2. Temporary derivation or displacement of blood, by dry-cupping with cupping glasses and other instruments, creating a vacuum on some part of the surface of the body.

3. The air bath.

a. The cold air bath, simple exposure of the body without clothing to the air of a room.

b. The hot air bath, the application of air of high temperature (90°—140°) to the surface of the body, in whole or in part; simple atmospheric air or combined with other airs or vapours.

4. The sand bath.

5. Water baths.

A. Cold.

a. Cold water bath.
b. Cold affusion.
c. The douche.
d. Sponging.
e. The shower bath.

B. Hot or tepid.

a. Warm and tepid bath.
b. Tepid affusion.

d. Tepid shower bath.
c. Tepid sponging.
e. The vapour bath.

6. Inhalation of vapours.
   a. Watery vapours (simple).
   b. Watery vapours impregnated with chlorine, &c.
   c. Vapours of resinous and other solid matters (narcoties, &e.)
   d. Chloroform, ether.

7. Drinks of water artificially eooled, ingestion of iee.
8. Eleetricity, galvanism, magnetism.
9. Mesmerie and hypnotie manipulation.
10. Hydropathy.
11. Kinesipathy.

III. Pharmaceutical means. — This elass of instruments of the medical art comprehends all that enormous mass of substanees of various kinds usually termed drugs or medicaments. They are derived from all departments of nature, inorganic and organie; from the atmosphere, from water, from the mineral, vegetable, and animal king-

doms. They are employed either in their simple state, or as artificially modified and combined in innumerable ways.

These substances, as formerly observed, have usurped the place of almost all other remedies in ordinary medical practice; so that, according to the vulgar notion, the function of the physician consists in little else than the prescription or administration of drugs, and the function of the patient in little else than swallowing them.

However degrading and unjust these views are, the enormous proportion of space occupied by medicinal means in the field of practical medicine, would seem to make a minute account of them necessary in such a work as this. As, however, such account may be had in many excellent works on Materia Medica, I shall here content myself by giving a mere catalogue or list of the different classes in which medicines may be arranged according to their real or supposed action on the animal system in health and disease.

Class I.—*Evacuants.*—Medicines capable of acting on the secretory and excretory organs in an obvious and marked manner, chiefly by increas-

ing and removing their natural produets or eontents :

1. From the stomaeh.
2. From the bowels.
3. From the liver, &e.
4. From the kidneys.
5. From the skin.
6. From the nasal membrane.
7. From the salivary glands.
8. From the membrane of the air-passages.

Class II.—*Alteratives.*—Medieines eapable of affeeting, or supposed to affeet, in a slow and often in an impereeptible manner, the glandular, absorbent, seeretory, and nutritive systems, so as to modify the funetions and produets of the individual organs or parts. This elass eontains many medieines the aetion of whieh is rather eonjeetural than demonstrable : it, however, contains some of positive and evident power.

Class III.—*Balsamic remedies.*—Medieines eapable, or supposed eapable, of affeeting, in some speeial manner, the mueous membranes, and of altering variously, in quality or quantity, their seeretions—more especially of the membranes of the

bronchi, bladder, and genitals. This class of medicines includes all those known by the name of gum-resins, turpentines, balsams, &c. The special quality of some of them, to influence the action of certain mucous membranes, cannot be doubted; but there exists no positive evidence of any such power in the larger proportion of them. On the whole, they cannot be regarded as of much importance in therapeutics.

Class IV.—*Narcotics, &c.*—Medicines capable of influencing the brain, spinal marrow, and nervous system generally, in their special functions.

No doubt can be entertained of the great and admirable power of this class of medicines, to fulfil, to a greater or less degree, the above definition. At the head of the list stand opium and its products, some of the noblest instruments of the medical art; and there are a good many others of analogous though inferior value.

Class V.—*Genetica.*—Medicines capable of affecting the uterus in its muscular and secretory functions. This class contains only three or four drugs, but they possess a positive power of greater or less extent.

Class VI.—*Astringents.*—Medicines having the power to constringe the capillary blood-vessels on mucous surfaces, and thereby to lessen or arrest discharges from them. There can be no doubt that the effect of many of this class of medicines, when applied locally to mucous surfaces in the state of health, is to constringe the superficial capillaries of the part for the time, and so to lessen the amount of natural secretion there. It remains a matter of doubt whether we possess any positive evidence of similar results being obtained, either in the healthy or diseased body, through the medium of the general circulation, on the medicines being taken internally. Most physicians believe this to be a fact; and it must be allowed that there is an *à priori* probability of its being so. I myself have witnessed no unequivocal instance of the kind, except in the case of the intestinal canal; and here the effect may have been, and probably was, the result of the direct application of the remedy to the mucous membrane of the canal.

Class VII.—*Stimulants, Aromatics, Tonics, &c.*—Medicines capable of exerting more or less of a stimulating action on the stomach in the first place,

and subsequently on the nervous, vascular, and muscular systems, without exhibiting special relations of a marked character with any other organs. This is a class of medicines comprising a vast number of substances of various action, some few of obvious and admirable power, locally or generally, but the majority of insignificant power as remedies, if of any power at all. They may be ranged under the following heads:

1. Aromatics, stomachics.
2. Tonics.
   a. Vegetable tonics.
   b. Mineral tonics.
3. Stimulants.

Class VIII.—*Refrigerants.*—Substances capable of producing a cooling effect (when administered cold) on the stomach, in the first place, and subsequently on the system generally. This class is of very limited power, and, generally speaking, of little more power than cold water, which is, indeed, the best and most effective of the whole class.

Class IX.—*Hæmatics.*—Medicines capable of

altering the constitution of the blood, physically, chemically, and dynamically. This class contains a considerable number of means that act very diversely on the blood. Some are of great value andof undoubted power, more especially the preparations of iron.

Class X.—*Local or Superficial means.*—Means acting directly on the surface of the body, and through it influencing interior organs or the system generally. This is one of the most important of all our classes, comprising a great variety of applications of undoubted power, such as friction, baths, cataplasms, blisters, &c.

CHAPTER X.

OF THE MODE OF ACTION OF THE INSTRUMENTS OF THE MEDICAL ART: DIRECT AND SPECIFIC ACTION.

The details already given respecting the real nature of Diseases, and the mode of their formation and removal by the inherent powers of the system, will have prepared the reader to receive, with readiness, the explanations we are now about to make of the ways in which the Medical Art employs her instruments in modifying, relieving, or curing them.

These instruments or means are, as we have seen, of very various kinds, and admit of being classified in many different ways, according to the point of view in which they are regarded. Looked on merely in relation to the particular modes in which they severally operate in modifying existing diseases—the only point of view under which we are now to consider them—they would seem all capable of being arranged in two main classes, according to

the more or less direct way in which they influence the morbid state.

In the first class we would comprehend all those means which, in producing their effects, act or are supposed to act directly on the disease itself, or on the disordered parts and functions constituting it, or on its immediate and still persistent cause, and which may, therefore, be called *Direct means*.

In the second class we place all the remaining means, those, namely, which, possessing no special relation with the morbid state itself, act on it merely in an indirect or vicarious manner, by modifying some other organs or functions or the system generally, and so influencing the disease. These may therefore be named *Indirect means*.

In proceeding to notice the individual remedies that belong to each of the two classes, we shall consider them under the heads of the particular diseases to which they are respectively applicable.

If we were to adhere rigidly to the principle implied in the above paragraphs, the present chapter should comprehend only that very small number of diseases which can be distinctly shown to be influenced by remedies acting directly on them,

or on their site, or on their immediate cause. For reasons of convenience, however, I have thought it advisable to place for consideration in the same category, another small group of diseases which can have, at most, but a presumptive claim to be placed there.

We shall thus have to examine, under the present division, the two following classes of cases: 1. Diseases directly modifiable or curable, strictly so called, that is to say, by the immediate contact of the remedy with the parts in which the disease is situated, or with its still existing cause. 2. Diseases, the site of which is not known to be immediately in contact with the remedy, yet are modifiable or curable by it, in some unknown or specific yet positive manner.

I. *Diseases directly curable.*—The diseases which come under this head may almost all be said to have their site on the surfaces of the body, either on its outer surface, or in the cavities and passages communicating directly with this.

A good many of these affections belong exclusively to the province of the surgeon, some being treated mechanically, others exclusively by direct local applications. These do not properly come

within the scope of the present work, and are therefore only incidentally referred to in this place. Among these surgical cases we may name several cutaneous diseases treated by local means; certain diseases of the eye, ear, mouth; certain affections of the stomach, treated by the stomach-pump; affections of the rectum, bladder, and other internal cavities accessible from without, &c.

In the very small number of diseases which we have considered to be alone susceptible of direct treatment, the indication is obvious, and can be fulfilled by appropriate remedies in most cases. Here the Medical Art may be said to present itself in its aspect of highest excellence, inasmuch as it is directed in its operations by rational principles, and perfectly accomplishes the work proposed to be done; it satisfies, at once, the intellect and the desire of the scientific prescriber. Unfortunately, the instances are few and unimportant in which such indications exist. If, on the contrary, numerous and severe diseases came within the same category, the Medical Art might then, indeed, vindicate its claim to be called divine, and could not fail to gratify the aspirations of the most sanguine and most benevolent. But, alas, it is hardly a legitimate

ground for exultation, that we can so control and extinguish a few of the more trifling diseases, while nearly all the huge remaining mass of human maladies, must be left to the chances and uncertainties of a treatment which is neither precise in its indications, direct in its action, nor positive in its results.

It is consolatory, however, to reflect that more than one of the methods of investigation now in active operation, under the hands of our most enlightened pathologists, encourage us to hope that this direct method of treating diseases,—the only method that is based in the solid principles of physical science,— may be gradually extended to other diseases of a more recondite character and of greater importance, than the petty class to which alone it is at present applicable. The more thorough investigation of the qualities of our fluids and even of our solids, in health and disease, may lead to the discovery of positive methods of extinguishing diseases, or the elements of diseases, in the living fluids and living tissues of our bodies, just as our present methods can reach some of the morbid conditions of the stomach and bowels, and other external or semi-external organs.

The following are the principal affections, susceptible of direct treatment, that come more immediately within the scope of medical means :

1. Pain or disorder of the stomach arising from acids or alkalies swallowed intentionally or by mistake, and which may be sometimes wholly or partially neutralized by the introduction by the mouth of the corresponding reagent.

2. Pain or disorder of the same organ, arising from various other deleterious substances, usually named poisons, relievable or curable by the introduction of remedies (antidotes) calculated to mitigate or destroy their deleterious effects, chemically or mechanically.

3. Certain forms of dyspepsia—in particular the affection termed cardialgia or heartburn, arising from the presence of the acescent products of imperfect digestion ; relieved or removed by the neutralization of the acid by alkalies introduced by the mouth.

4. This and some other kinds of irritation, pain, or uneasiness, arising from the contents of the stomach, relieved or removed by simple aqueous dilution, ejection by vomiting, or the remedies termed carminatives, &c.

5. Irritated, excited, or inflamed conditions of

the stomach, rectum, &c., relieved by cold water and other refrigerants, by sedatives, &c.

6. Certain dynamic conditions of the stomach, arising from muscular debility or decreased sensibility, treated by stimulants and tonics acting locally.

7. Simple constipation or fecal accumulations in the bowels, removed by purgatives and enemeta.

8. Simple diarrhœa from irritating causes of a local character, relieved by astringents and sedatives acting topically.

9. Internal worms removed alive, or killed by the direct action of remedies of a chemical or mechanical nature; as ascarides by aloes and turpentine; tænia, &c., by cowhage, tin filings, &c.

10. General plethora of the system, and local and relative plethora of the heart, great vessels, and lungs, relieved mechanically by general bloodletting.

11. Local inflammations on the surface of the body, or in parts near the surface of the body, relievable by the local application of fomentations, poultices, cold lotions, leeches, cupping-glasses, blisters, &c. Most of the cases treated in this manner come under the care of the surgeon; yet several diseases of a strictly medical character are also so treated, as pleurisy, peritonitis, colic, &c.

The foregoing and a few more analogous affections seem to be all the diseases that come rigidly within the category of Direct treatment.

There is, however, another class of cases, which may be considered by some as coming legitimately within it, although on a different principle; I mean the diseases which have their exclusive site in organs or parts of the body, which are susceptible, both in their healthy and morbid condition, of being specially influenced or acted on by particular remedies. Without conceding the logical propriety of adopting a classification of this kind, I shall here put down the principal affections that seem to be embraced by it.

1. Affections of the mucous membrane of the stomach and bowels, other than those named under the last head; treated by emetics and purgatives.

2. Affections of the kidneys; treated by diuretics.

3. Affections of the liver; treated by mercury. (?)

4. Affections of the heart; treated by digitalis.

5. Affections of the glandular system; treated by the class of remedies termed alteratives or deobstruents, such as mercury, iodine, cod-liver oil, &c.

6. Affections of the mucous membranes; treated by balsams and resins, &c.

7. Affections of the nervous system; treated by the class of remedies termed narcotics, sedatives, and special stimulants, such as strychnia, brucia, &c.

8. Morbid states of the blood; treated by iron.

9. Morbid states of the uterus; treated by ergot.

II. *Diseases specifically Curable.*—Those diseases which can fairly lay claim to be treated *specifically*, come very nearly within the same category as those said above to be acted on directly—both in respect of precisencss of indication and positiveness of result; the chief difference between them being, that the precise mode of action of the remedies is known in the one case, and not known, or at most only conjectured, in the other case. In both classes, however, the very name of the disease suffices to indicate the remedy; and the application of the remedy is expected to be followed by the cure of the disease. Here, as in the former class of affections, the Medical Art performs almost all that can be desired, certainly all that can be reasonably expected of it. It is true, that it does not always succeed; but, in the cases which come fairly within the category of specific treatment, it succeeds sufficiently often to entitle it to claim much of the credit, if not all the

eredit, whieh justly belongs to so great and so positive a display of power. Unfortunately, as in the last eategory of eases, the diseases suseeptible of speeifie treatment are extremely few in number, though some of them are of eonsiderable importanee.

As we remarked of the diseases ineluded in the last seetion, that the aetual amount of them was not unlikely to be inereased by future diseoveries, so we may remark, also, of the present eategory. Indeed, the antieipated diseoveries referred to, if they ever take plaee, must add to the list of diseases admitting *specific* treatment, as well as of those admitting *direct* treatment, between whieh, even now, there is not always to be found a very positive distinetion.

As the diseases whieh we range under this head have nothing in eommon but the quality of a modifiability or eurability, real or supposed, by the means indieated, they admit of no elassifieation aeeording to their pathologieal eharaeter; and it will, eonsequently, be found that our list, meagre as it is, eontains affeetions of the most diverse eharaeter. The whole arrangement, indeed, of diseases under sueh a heading as this, ean only be allowed to be provisional; as it ean hardly be doubted that inereased knowledge of the intimate nature of diseases, and

of the mode of action of remedies on them, will eventually lead us to remove from the present category all the cases we are about to place in it, and range them either in the preceding list of diseases directly curable, or in the great class next to be noticed, comprising the diseases susceptible only of Indirect Treatment.

In the earlier ages of physic, physicians, naturally participating in the notions of the vulgar, regarded the greater proportion of medicines as possessing some mysterious or special power over particular affections, and consequently placed the greater number of diseases in the class now under consideration. Overlooking the wonderful powers of Nature to cure diseases, and trusting to an experience and observation most imperfect and beset by every sort of fallacy, they thought themselves justified in placing in the list of remedies possessing absolute and specific virtues to cure particular diseases, hundreds of substances utterly without any power to affect the human body, in either its healthy or its morbid conditions. Like the more ignorant practitioners of the present day, and the lay and amateur doctors of all times, they sought for no further verification of their inferences than the mere sequence of coin-

eident but uneonneeted events,—*post hoc ergo propter hoc*, the everlasting stumbling bloek in the reasoning of eommon minds.

In all the works on praetieal medieine eompiled previously to the last eentury, we see long lists of sueh so-ealled speeifies ranged under the head of almost every disease; and their respeetive virtues set forth and vouehed for, not merely on the ground of speeious and subtle theory, but from the alleged evidenee of the manifold and long experienee of the most learned and most honest men!

As general seienee made progress, and the Medieal Art, in the hands of seientifie professors, gradually assumed a more philosophieal form, and observation and experienee began to be more and more subjeeted to the dominion of a rational logie, these imaginary remedies fell, one after another, out of the armoury of physie, until nearly all had disappeared. To be sure, they were, in many eases, sueeeeded by others whieh, though less fantastieal, and often possessing powers to influenee the animal system in some way, were really as powerless in the eure of diseases as their predeeessors.

In the end of the last and beginning of the present eentury, the expurgation of the Materia

Mediea from these imaginary specifies had advanced so far, that of the hundreds once accredited as such by the most eminent men, a very insignificant proportion remained. This expurgation has gone on increasing with the advance of medical science ever since, until at last it seems impossible to name even half a dozen remedies that ean fairly be retained in the special or specific elass.

In the following eatalogue I insert the names of all the diseases and remedies that oeeur to me as having, of late years, been regarded by any legitimate and scientific physieian, in this country, as coming in any way within its limits. If, indeed, we were to include in this class only the diseases that are *invariably* eurable by their alleged specifies, our list would certainly be a blank; and even if we only admitted into it those that are *generally* so curable, we should not be able to raise the sum beyond the first half dozen on our list.

I think no candid physician of long experienec will be disposed to coneede more than this—namely, that though he has oeeasionally sueeeeded in relieving or even curing several of these diseases by the means mentioned, he has also very frequently failed to do so; and this, even in the instanees universally

allowed to be most amenable to the specific treatment. In a majority of the instances adduced, the remedies have occasionally been found useful, but have more frequently failed to display anything like a special or specific power to cure the respective diseases. In very few instances have the very best of them exhibited any such power, except in particular states of the system, in particular stages of the disease, or after the employment of other treatment of a more general and indirect kind, calculated to place the body generally or some of its parts in a more normal or healthy condition than they were previously, and thus remove obstacles to the exercise of the restorative powers naturally inherent in the system itself.

1. Ague and some forms of remittent fever; cured by cinchona and its salts, and by arsenic.

2. Syphilis; curable by mercury.

3. Scorbutus; curable by fresh lemon-juice, more certainly by fresh animal and vegetable food.

4. Bronchocele; curable by iodine.

5. Chlorotic anæmia; curable by iron.

6. Periosteal and other swellings on the surfaces

of the bones, syphilitic, gouty, or strumous; cured by the iodide of potassium.

7. Gout; curable by colchicum. (?)

8. Iritis, hepatitis, pericarditis, and other inflammations of serous membranes; cured by mercury. (?)

9. Hemicrania and intermittent neuralgia; cured by iron, arsenic, quinine, &c.

10. Chorea; cured by iron, zinc, and arsenic. (?)

11. Delirium tremens; cured by opium. (?)

From the interrogative sign appended to several of the preceding diseases and their special treatment, it will be understood that my own judgment and experience do not quite accord with the statements there made. I am, however, anxious not to seem too exclusive in the eyes of those who differ from me.*

It is true, that if we were disposed to adopt the

* Dr. John Ware, of Boston, America, has proved the non-necessity of opium in the cure of delirium tremens; and Dr. H. W. Williams, of the same place, has proved the non-necessity of mercury in the cure of iritis. See 'Trans. of the Massachusetts Med. Soc.,' 1846, and 'Brit. and For. Rev.,' vol. xxiii, p. 603. See also 'Boston Med. and Surg. Journal,' 1846.

medico-chemical views which have been propounded of late years, we might add considerably to our list of internal diseases directly or specifically curable. But the amount of our positive knowledge respecting these views does not warrant such a step, in the present stage of the inquiry at least. The subject is, however, so very important, and of such great promise, as to claim from us some further notice in this place in passing.

During the present century, and especially during the last twenty years, since the attention of physiologists and pathologists has been particularly directed to the investigation of the intimate structure of the solid and fluid parts of the body, by means of chemistry and the microscope, results have been obtained which have given a new direction to men's minds, in regard to certain points of pathology, or, rather, have turned men's minds into the old paths of inquiry, armed with new powers and guided by more philosophical views. One consequence of this has been the revival of the old humoral pathology in a less problematical form; and, with this, as a necessary result, the resuscitation of the almost exploded theories of the direct or specific treatment of diseases.

Several of the old erude notions respeeting the impregnation of the blood and other eonstituents of animal bodies, solids as well as fluids, with the material eauses and produets of diseases, have been reformed, and verified by ehemistry as positive faets; while the introduetion of several medieinal and ehemieal substanees, not only into the blood, but into the parenehyma of organs and their various seeretions, has been demonstrated in the most unequivoeal manner. Some of these medieines have been found unaltered both in the interior of the body and in the exeretions; while others have been found modified either by the normal proeesses always going on in the system, or by the aetion of substanees met with in their progress through it.

As some of the agents thus eapable of permeating every part of the body are known to be possessed of powers eapable of modifying vital aetion, both dynamieally and ehemieally, it is impossible to avoid reeeiving the eoneeption, and entertaining the eonjeeture, that they may thus direetly modify diseased states, whether funetional or struetural, and so relieve or eure diseases in a direet and speeific manner. It is even extremely probable that they

do so; and it seems a most legitimate object of our tentative art, to endeavour, by direct experiment, to ascertain whether this probability can be converted into certainty.

There does not appear to be any sufficient reason, *à priori*, why the same or similar results which we see taking place on the skin and mucous surfaces of the body, or in its cavities or passages, on the direct application of medicinal and chemical agents, may not also take place in the intimate tissues of organs, on the same or analogous agents being conveyed to them by the blood; and, still more, in the blood itself, in the cases where we believe the *materies morbi* to exist primarily in that fluid.

Whatever cheering prospects may thus be opened for the future, it must be confessed, however, that, hitherto, practical medicine has derived but slight advantage from the new facts and views for which we are indebted to recent chemistry and microscopy. In some of the old cases of acknowledged specific action, or quasi-specific action, a nearer approach has certainly been made towards explaining the rationale of the process of cure; or, at least, better grounds have been furnished for a more rational conjecture; and some ingenious suggestions have

been made as to the employment of new medicines in certain diseases, on the principles of the new organic chemistry and chemical pathology; but I fear it can hardly be admitted that we have, as yet, made through this channel any very positive additions to our list of specific remedies, or ascertained any new means for the more effective employment of the old. If the indication of treating diseases on the *specific* principle were, in practice, limited to the few diseases to which it is certainly applicable, we should have no ground under this head for complaint against the Medical Art, for incompetency to fulfil its objects, and, still less, for its being productive of evil instead of good. But, unfortunately, the same indication as a ground of treatment has been extended by medical men, in all ages, to numerous affections to which it is most imperfectly, or not at all, applicable, and with the effect of introducing modes of treatment almost always ineffective, and often most injurious.

Though this pseudo-specific treatment, like the true, claims experience for its foundation—hence indeed its name of *Empirical*—it must be admitted that the grounds for such a claim are, in a vast proportion of cases, altogether imaginary. In a

eertain number of the instanees in whieh it is employed, there is, no doubt, suffieient evidenee derived from positive experienee, to justify the praetice. Although falling short of what we properly term *specific* or *antidotal*, the results, in sueh instanees, being more or less benefieial, or, at least, not being injurious, authorise the use of the remedies produeing them, in the absenee of others propounded on higher indieations. The praetiee is, at least, rational; and is not the less so beeause the results, when traeeable at all, are slight in degree and genial in kind. If the agents do not aid Nature mueh, they do not thwart and outrage her.

But, unfortunately, this pseudo-speeifie or rational empirieal treatment, is far from being eonfined in praetiee to the small number of diseases to whieh it ought to be legitimately restrieted on the ground of experienee, or to that elass of ageneies whieh are in their nature innoeent. On the eontrary, there is hardly a disease to whieh, under some plea or other of imaginary or false experienee, it is not made applieable; and hardly a remedy, whether inert or powerful, that is not enlisted in its serviee.

In no department of seienee or art, in no phasis of human aetion involving ratiocination and inferenee,

are more false grounds admitted or more false conclusions drawn, than in this case; and the practical results are such as might be expected to flow from such a source. Every drug that has at any time been regarded by anybody as possessing some special power, either in curing diseases or in influencing the functions of the organs in which they are supposed to have their seat; every drug that has been recommended by anybody, more especially by authors and teachers, simply as beneficial in certain diseases, though on no better evidence than that it was employed in cases that recovered; every drug that has been proposed by writers as of probable or even possible utility, on mere theoretical grounds; every drug that has been suggested by analogies, however vague; every drug that has not been previously prescribed in the particular disease in hand; in a word, almost every drug in our overflowing Materia Medica, whether inert or active, has been, on some ground or other, copiously prescribed in every variety of disease, under the supposed sanction of this pseudo-specific or empirical indication.

Nor let it be supposed that this empirical practice is one of a past day only. It is at this very time in as great vogue as ever, although its employment

may be often veiled under the technicalities of newer science. Nor is it confined to the ignorant or inexperienced among us, but adopted and followed by men of the greatest abilities and greatest eminence in the profession.

No doubt it is followed by such men, not from any fixed conviction of its propriety or usefulness, but rather from the influence of other causes—from conventionalism or traditionary habit; from indolence or carelessness; from indifference founded on a just reliance on the restorative powers of Nature; from consciousness of the inherent deficiencies of Art; and from the uncertainty of having any agencies of greater promise at command.

The good or the evil arising from pseudo-specific or empirical practice will depend on the character of the agents employed, and thus on the knowledge and skill of the employer. The experienced and wise physician, if he does not much good, will do little harm by it; the ignorant, inexperienced, and rash practitioner may make it the means of inflicting the greatest calamities.

In the case of inert or feeble remedies being prescribed on this principle, little or no harm can arise, except indirectly by preventing the use of

other means possibly more effective; but when medicines of positive power to influence the structures and functions of the body are so employed, direct and positive evil to the course of the existing disease, and even injury to the system at large, may be—nay, must be—the consequence.

CHAPTER XI.

OF THE MODE OF ACTION OF THE INSTRUMENTS OF THE MEDICAL ART: INDIRECT OR VICARIOUS ACTION.

In the preceding classes of diseases, all the indications point to modes of treatment having, or supposed to have, a relation more or less direct and positive with the diseases themselves, in virtue of which relation the remedies prescribed produce their therapeutic effects, whatever these may be. In noticing the diseases coming under these heads, we have more than once had occasion to lament the smallness of their number, and their comparative unimportance; on the ground that diseases amenable to either the *direct* or *specific* treatment, are vastly more under the control of the Medical Art than the diseases not so amenable. A reference to preceding details will in fact show that the whole of the dis-

eases of the former elass constitute but a merely fractional and insignifieant residue of the huge mass of diseases gencrally, all of whieh eome within a categ0ry of a treatment essentially diffcrent. It is to the eonsideration of the indications and modes of treatmcnt adaptcd to this the great body of human diseases, that we must now address ourselves.

In this class of diseases, the treatment is exclusively of that indireet or viearious kind, which seeks to influenee the morbid proeesses through the medium of ehanges produced in parts of the system, or in the functions of organs, not neeessarily nor immediatcly conneetcd with the diseased state or even with its organic seat. Its immediate results are preeiscly the same as those whieh similar ageneies produee in a healthy body; and if they influcnce diseases benefieially, they ean only do so by subserving, in some way or other, the provisions inherent in the system for their natural decline. Sueh kind of treatment, therefore, whatever be its form, ean be but rarely called *curative,* in the striet meaning of that term. As, however, we have seen that this is the only kind of treatment admissible in the great body of diseases, it must be regarded as the main feature and eharaeteristie distinetion of the

Medical Art; the real value of which must accordingly be measured chiefly by the results obtainable through this department of therapeutics.

The modes in which this indirect, or vicarious, or physiological system of treatment is applied in actual practice, are too numerous to be stated in precise terms; as they must vary with the views of every individual practitioner. There are, however, a few main *indications* pointing to special results sought to be attained by treatment, which are pretty generally adopted in practice; and these I shall take as special heads under which to institute my inquiries, and gather results for future consideration. The diseases coming under this category are, of course, more or less amenable to all the forms of medication named in Chapter IX of this volume. The Regiminal Treatment is here of universal and very extensive application, and of the greatest possible benefit; but neither it nor the class of instruments noticed under the heads of Physical or Mechanical means will be particularly noticed here. Our attention in the following pages will be chiefly directed to the class of Medicinal or Pharmaceutical means, as being those chiefly instrumental in influencing the diseases which we are now to consider, such,

namely, which are only susceptible of indirect or vicarious treatment. The other classes of instruments, however, exclusive of the Direct or Specific, will be equally applicable in this class of cases.

Referring to a former chapter for the particular action of all these remedies, we shall, in the present, give our attention rather to the general indications and methods followed in actual medical practice, than to the results flowing from particular agents. We shall thus, I believe, be best able to show the actual and relative value of the Medical Art in the treatment of diseases generally.

I. Extinguishing treatment. — One of the indications governing the application of the Indirect or physiological system of treatment (at least in acute cases), is to *cut short,* as it is called, or extinguish diseases, by a bold stroke or *coup de main* applied to them, or rather to the system, in their earlier stages. This indication, happily less acted on now than formerly, is confined, for the most part, to febrile and inflammatory diseases, and is attempted to be fulfilled by calling into contemporaneous or successive action some of the most potent perturbative agencies at

the command of the professors of the Medical Art —such as bloodletting, emetics, purgatives, the cold bath, &c.

In rare instances, the violent artificial disturbances so excited in the system, seem to overcome the natural disturbances existing in it; but as a general rule the indication is not only not fulfilled, but the existing disease is either aggravated directly, or the natural restorative powers of the system are arrested, enfeebled, or misdirected.

This is, at least, the ordinary result in the case of specific fevers. In certain inflammations and ephemeral fevers, success has occasionally attended the practice; but even in many of these cases, the benefit is more apparent than real; the abrupt abolition or suppression of the ostensible and more formal malady being often purchased by a prolonged convalescence, and by a weakened state of the whole system (more particularly if venesection had been carried far), which is sometimes never recovered from, or which leads to other diseases.

Our estimate of this indication as a guide in practice, and of the kind of treatment to which it leads, must therefore be entirely of a damnatory character; the slight amount of good ever derived

from it being counterbalanced by a huge sum of evil. In its mitigated form, it may be applied, without much risk, and with occasional benefit, to simple inflammatory diseases of an acute type; in ephemeral fevers, verging on the inflammatory type, it may also be sometimes not inadmissible; but in all fevers of the zymotic class it is never productive of any good, but of much evil. We hold it, consequently, as a maxim, that such a mode of treatment is to be abandoned as one of the forms of general practice; or, if employed at all, only to be so in very special and exceptional cases.

II. Active treatment.—A second indication, of the same general character as the last, for determining and regulating practice in acute diseases, is that which does not seek, as its primary object, to extinguish or cut short diseases at once, but merely to diminish their intensity, and to check or retard their progress by the more or less continuous employment of perturbative and exhaustive means of the same general kind as those employed to fulfil the preceding indication.

This mode of treating acute diseases generally, and a large proportion of chronic diseases also, is that which may be said to be now most prevalent

among the practitioners of this country; and is usually termed *active* or *effective*, to distinguish it from other modes of treatment of the same general character, but of milder and feebler action. In many cases it is merely a part, or, at least, a sequel of the practice just noticed; as the votaries of the extinguishing or short-cutting process, when failing in their greater aim, naturally adopt the heroism that stands next to it in degree.

Whether adopted as secondary or primary, it goes on the principle that the morbid processes, in acute diseases, are susceptible of great modification, not merely in degree but in kind, by the depletive, derivative, and perturbative actions, excited in the system by the stronger instruments of the Medical Art; and the indication, of course, is, to excite and keep up such actions, so long as the disease continues in an active state, or the general powers of the system seem capable of sustaining them. The directing principle is essentially the same as that followed under the last head, only that it aims at results less immediate and less conspicuous.

No one can call in question the power of the Medical Art to modify diseases indirectly on this principle, and by these means; nor is it, in any

degree, a matter of doubt that they are often so modified *beneficially*, that is, in the way of diminution, relief, and cure. It seems even highly probable that, in a certain proportion of cases, this bold practice succeeds in saving life which would be greatly perilled or even lost under a feebler plan of treatment.

These admissions, however, are far from being equivalent to the assertion that such a mode of treatment is generally proper, that is to say, the most effective and most successful that can be adopted generally in the cases under consideration. It is probable, I think, that the affirmative of this proposition will be maintained by the majority of British practitioners of the present day, as it was undoubtedly maintained by their predecessors. Nevertheless, I do not hesitate to express my belief in its inaccuracy, and my readiness to defend the truth of that opposed to it.

Admitting the facts to be as stated above, viz., the frequent utility and occasional superiority of this method of practice, it is far from following as a corollary that it must therefore be the best. The best practice is that which produces the greatest amount of good possible, and the least amount of

evil possible. Now I maintain that the heroic practiee now under eonsideration does not do this in a degree nearly so eminent as the milder and less perturbative form of treatment to be noticed under the next head.

If the bold or heroie praetiee oeeasionally eheeks or subverts morbid aetions and processes that seem tending to unfavorable or dangerous issues, it quite as frequently disturbs, arrests, or perverts those whieh have the eontrary tendeney towards relief and eure, substituting for them such modifications of old conditions, or sueh new eonditions, as are in the end injurious instead of beneficial. Its good is, at the best, neutralized by its evils; so that the result may be set down (if this proposition is true) as only equivalent to that whieh would follow if the diseases had been left to Nature.

In making this statement I, of eourse, always have in view the aetive and bold treatment as carried out to its full extent; sueh as was habitually and almost universally practised in this country until within the last twenty years; and such as is still praetised by many of our senior physieians who yet retain the old heroie faith, and by many of our younger physieians who have

been educated in schools into which the novel fashion of temperance in physic has not yet penetrated. My observations scarcely apply to that form of practice, which, while still proceeding on the same principle of distrust in Nature and confidence in Art, and though still justly termed *active*, has abandoned several of its most heroic weapons, and only wields those it has retained with the feebler energy of a degenerate age. In this case the results on the side of good are, no doubt, proportionately much greater than in the former case, while those on the side of evil are, in the like proportion, less; so that the general effect must be accepted as superior to that which unassisted Nature can supply.

The real amount of this superiority, however, I apprehend to be much less, speaking generally, than the votaries of even this moderately bold practice will be disposed to allow. They will, no doubt, equally demur to the truth of the proposition which I feel bound to add, namely, that the value of the practice increases in proportion as it recedes from the high heroic, and approaches the level of the more patient and humbler modes of practice to be noticed under the next head.

The fundamental evil of this energetic and meddling practice is, that, while not possessing in itself any certain power of checking or mitigating the morbid processes, it often interferes injuriously with the provisions of Nature already existing and working towards their spontaneous cure or self-decline. At the very best, it is a practice not simply of doubtful efficacy, but hazardous: it is a sort of game of double or quits: in rare cases it may succeed well; but in the majority it not only fails to benefit but produces actual mischief. The very nature of the practice being exhaustive as well as perturbative, it not merely deranges processes that may be of a conservative tendency, but it often weakens the natural powers of the system generally, below the point requisite for the due exercise of restorative action.

III. Auxiliary or Mild treatment: Rational Expectancy.—This modification of the Indirect, physiological method of treating diseases (more especially acute diseases), I regard as, at once, the most philosophical, the safest, the surest, and the most successful of all the forms it assumes in practice. Although, in appearance, it differs little from the

last form of treatment, exeept in degree, it is based on a somewhat different principle, and seeks to fulfil different indications. In the first plaee it completely recognises the autoeracy of Nature in the cure of acute diseases; and proceeds on the prineiple that it is not only useless but injurious to attempt to suppress or greatly to modify the morbid processes, by strong measures of a perturbative or exhaustive kind.

The indieations whieh this mode of treatment seeks to fulfil are chiefly the following: 1st. To plaec the diseased body in the most favorable eireumstances for the development and exercise of its own conservative powers, by the institution of a proper Regimen, in the most comprehensive sense of that term. 2d. To endeavour thereby, or through the use of medicaments, to remove such obstacles to the favorable aetion of the eonservative and restorative powers, as may be removeable without the risk of cheeking or injuriously perverting them. 3d. Applying these measures under a watchful supervision; not to attempt, by any vigorous measures, to alter the eourse of the morbid processes so long as they seem to keep within the limit of safety, and when they transgress or threaten to

transgress this limit, only then to endeavour to modify them by such mild measures as, if they fail in doing good, cannot do much harm. 4th. To be on the watch against possible contingencies, which may demand the employment of measures of exceptional activity, whether in the form of regimen or medicine; and, when required, to apply such measures with the necessary vigour. This last indication refers to such contingencies as great irritation or pain, exhaustion, sleeplessness, diarrhœa, vomiting, intercurrent local inflammations, &c., which often admit of great mitigation at least, if not of complete removal, by drugs, dietetic stimulants, &c.

This form of practice, while based essentially on the two great facts, of the great power of Nature to cure acute diseases, and the comparatively small power of Art to aid her in this work, much less to take her place, is far from ignoring the existence or value of the Medical Art, but merely seeks to take advantage of all the good while endeavouring to eschew much of the evil it is capable of effecting when misdirected or misemployed.

It will be seen that the system of treatment which I here advocate, more especially in acute diseases, and which my own observation and experience have

long led me to prefer, is exactly that followed and recommended by the celebrated Stahl, a century and a half ago, in his admirable work entitled "Ars sanandi cum Expectatione opposita Arti curandi nudâ Expectatione." This work was written to correct the errors fallen into by our countryman, Gideon Harvey, in his treatise on the same subject and with nearly the same title; and points out, in an admirable manner, the nearly equal but opposite evils derived from the system of doing nothing, and from the system of doing too much. Between these extremes he seeks to interpose the truly philosophical and rational system which is here advocated, and which he variously terms *Expectatio artificiosa, Expectatio circumspecta, ars cum recta ratione Expectandi,* in opposition to the pure or naked, do-nothing expectationism then prevalent, and satirised by Harvey. "True *medical* or *artistic Expectation* (says Stahl) is that which, while carefully observing and watching the salutary operations of nature, is content to do so without offering assistance where it is not needed, or limiting this assistance to the giving of prudent counsel, such as recommending to the sick temperance and patience; yet, in the proper place, recognising not merely the

propriety but the necessity of artificial interference, and yielding it accordingly; still, however, in every case, having due regard to the proceedings and co-operation of nature, according to reason and approved experience."

"As to the *methodus medendi* or indication of treatment to be followed (he says, in another place), it is clear that it must have reference to the disease itself, and not to drugs or other remedies. The first consideration is—Is it necessary to prescribe a remedy at all? If so, we have then to consider not so much what remedy is best, as what effect is desired? and this is to be sought for not on pharmaceutical but pathological grounds. We are to judge, according to the peculiar character of the disease, when and in what order the operation indicated is to be instituted; and then, and not till then, it is time to look about for the instrument with which we are to work" (p. 142).*

I have already characterised this rational Expec-

* I cannot here avoid expressing my admiration of many of the numerous productions of Ernest Stahl, and particularly of this treatise on Expectation. Stahl's works contain more of original truth in regard to the nature and treatment of diseases, and in regard to the proper method of studying them, than any other writings of his time.

tant form of the Physiologieal mode of treating diseases, as eonstituting the best practiee in all the diseases (aeute diseases, at least) that do not eome within the eategory of direet or speeifie treatment. In attempting to estimate its value in more general terms, as one of the representative forms of the Medieal Art, I would say, that while it possesses a very positive superiority over all the plans of treatment whieh, whether intentionally or not, virtually at least, leave Nature to her own resourees, it presents an equal superiority over all the plans that endeavour to supersede Nature's proeeedings altogether, by substituting for them the operations of Art. It oeeupies the happy medium between doing too little and doing too much. Without seeking to eneumber Nature with help, when help is not needed, it proffers aid in all eases where it is required and ean be applied ; and though the aid may not be great, it is positive, and weakened by no eounteraeting foree. The other physiologieal modes of treatment, on the other hand, if they sometimes do more good, also often do more harm ; and on attempting to estimate their positive value generally, it is not easy to say on which side the balanee lies.

IV. Negative or totally inert treatment; Pure Expectancy; Homœopathy.—That form of totally inert treatment ridiculed by Gideon Harvey under the name of *Expectation*, and characterised, as we have seen, by Stahl by the epithet *pure*, or *bare* (*nuda*), in contradistinction with his own rational Expectation, is rarely to be met with in the present day, except when it shows itself under other colours and under other names. In all the times of Physic, however, it has been adopted, in a more or less rigid form, by many wise and experienced men; and I for one, while disapproving of it on principle, am disposed to think that it has fared worse with the sick since it was entirely set aside for the heroic system of treatment which has been so long prevalent.

This opinion will not surprise those who have gone through many of the details in the preceding chapters of this work, in which it has been attempted to show how powerful Nature is in curing diseases (particularly acute diseases), and how comparatively feeble Art is in seconding her. Still less will it surprise those whose eyes have been opened to the amount of mischief which the Medical Art is capable of producing, and which, it must be admitted, it has

produeed and still eontinues to produce, under an unhappy misappreeiation of its own nature and powers, and of the nature and extent of the eonservative and restorative powers inherent in the living body.

The whole of Gideon Harvey's eoarse satire (in whieh, by the bye, there are many shrewd truths,) proeeeds on the assumption that the abettors of Expeetation, in his day, were not only ignorant of the vast superiority of Art over Nature in the eure of diseases, but that they eunningly and dishonestly adopted this method of treatment, to eloak their own ignoranee, and eheat their patients. I believe, however, that their method was better than his own; though they no doubt erred in believing that the inert means employed by them were really effieaeious.

The eharaeter and results of the Expeetation system of praetiee are truly set forth by Gideon Harvey, although his own appreeiation of the system is as false as I believe his eonstruetion of the motives of its followers is unjust and libelous.

"Expectation is the applying of remedies that do little hurt and less good, from whieh the patient,

day by day, frustraneously expeeting relief and benefit, is at last deferred so long that Nature and Time have partially or entirely eured the disease." —(Chap. I.)

"The real remedies of the Expeetant Physieian are eonfident and bold assertions that the patient shall be eured; though his serowles or reeipes ean eonduee no more to the reeovery of health than a Laplander's eharm to proeure a fair wind."—(p. 70.)

"It being known that most eurable diseases are eured by Nature and time, it follows that the ehief seope and intention of the Expeetation physieian is the gaining of time, and to elude the patient from time to time, until Nature hath eonquered the disease. . . . This fourbery repeated onee or twiee a day (if the patient feeth well, not else), will make him patiently *expect*, from one day to another, from one week to another, from one month to another, until at last Nature hath vanquished the disease. Besides this 'Tongue Praetiee,' there must be some remedies preseribed that do good, the best part of whieh are sueh as do no hurt."—(Chap. xxiii, p. 189.)

The praetiee of Homœopathy, now so widely

spread, is the most perfect as well as the greatest example of pure Expectation that ever existed in the medical world. Indeed, no other form of it can be regarded as quite pure. In the form of Expectation described by Harvey, and condemned by Stahl, medicines of some kind were always administered; of feeble power, perhaps, yet probably of some power; certainly of possible power. Even where the habitual and ostensibly the main remedy —the vegetable decoction or ptisan—was inert, occasional remedies possessing some positive action were never withheld, when they seemed obviously indicated; for this sect, so far from distrusting the efficacy of drugs, had an overweening belief in their power, and never hesitated to prescribe such remedies as aperients, emetics, diuretics, &c., when they thought they would be useful. So that, at the best, even their purest Expectation was hardly ever the real *nuda et otiosa* practice which we are now considering.

It is unnecessary in this place to adduce any fresh proofs of the truth of the opinion here assumed, that the Homœopathic remedies, so called, are utterly inert, and incapable of influencing the body, in any of its organs or functions, whether in health

or disease. This is to me a demonstrated fact, and must remain a demonstrable fact so long as Homœopathy adheres to the doctrine and practice of its founder, in regard to infinitesimal doses. If it should repudiate this doctrine, one of its twin fundamental principles, and adhere only to the other (*Similia similibus curantur*), and, under the sanction of the latter, proceed to administer its medicaments in appreciable quantities, the judgment of it here given will no longer apply, as it must then be taken out of its present category, and placed under the head of empirical and pseudo-specific treatment of the lowest and worst kind; nay, more, it must then resign the character to which, in its primary form, it was justly entitled, of being equal, at least, to Nature in therapeutic power; in other words, that it was Nature under another name.

It is, then, in the system of Homœopathy alone, that we can find an example of Expectation in its perfectly pure state; as it is only in the practice of its followers that we can find an entire abstinence from all drugs of possible power. It is, therefore, from this source that we must draw our conclusions respecting the value of *pure Expectation* as a form of therapeutics; which, it need hardly be re-

marked, is precisely the same as drawing conclusions respecting the power of Nature in curing diseases.

I know not if Homœopathy, while rejecting all rational medicinal treatment, is inconsistent enough to sanction and adopt the regiminal practice of ordinary medicine; if it is so, we must go further in our estimate, and admit that it may be beneficial as well as innocent, insomuch as it may positively aid Nature to the extent of the power of this its foreign auxiliary.

In this point of view, regiminal Homœopathy must be placed precisely on the same level as regiminal Expectation; and both be regarded, in a therapeutic sense, as identical with the restorative operations of Nature assisted by regimen. And to those who have assented to the principles propounded, and the conclusions arrived at, in the preceding parts of this work, such an estimate of value will not appear a very low one, when compared with several of the modes of practice followed under the ordinary system. If the good worked by this regiminal treatment be small, it is, at least, secure; it is accompanied by no countervailing evils, as we have seen to be the

ease in more than one of the more active forms of ordinary treatment.

It will not surprise the reader to learn, that it is more particularly in acute diseases that this regiminal treatment, under whatever name it presents itself, is most effective. In most chronic diseases, its inferiority to the best forms of our ordinary combined medicinal and regiminal treatment is very manifest. The relief and the cures under it are at once less speedy, less complete, and less frequent; while the affections so treated are apt to grow into more important maladies, because they have not been checked, as they often might be, in their earlier and slighter stages. In acute diseases, on the other hand, the advantage often lies on the side of any of the forms of regiminal treatment—at least, when the comparison is instituted between them and the more heroic modes of ordinary practice.

It is melancholy to be forced to make admissions in favour of a system so utterly false and despicable as Homœopathy, and in derogation of one which is both true and rational; but the faults of our ordinary system of medicine lie much less in its essential character, than in the erroneous mode in which it is administered, through the false views enter-

tained of its true nature and powers. When justly appreeiated and well administered, its therapeutie results are greatly superior to those of Homœopathy, whieh, in its blind devotion to the most visionary hypotheses, ignores and overlooks the most positive and obvious means of aid presented by the resourees of ordinary medieine.

CHAPTER XII.

GENERAL ESTIMATE OF THE POWERS OF THE MEDICAL ART.

Probably the most general and most important of all the results supplied by the preceding survey is this —that the Medieal Art, taken as a whole, and taken as presented to us in its aetual working eondition, both in present and past time, is not exaetly what it has been believed to be by the great body of its own professors, more espeeially by the younger members, and by the still greater body of the lay publie. It turns out to be not only different in its nature, objeets, and mode of aetion, but still more different in the amount of its power to mitigate and remove human diseases. The Medieal Art had, from the beginning, been ealled a Divine Art, from its legendary origin with the gods; and men in general, in after times, seem to have attributed to it

something of a divine or supernatural power in its relations to diseases. They seemed to suppose that it possessed the power of relieving or removing all sorts of diseases by some sort of mystical agency quite foreign to the ordinary vital operations of the animal system. Just as the vulgar believed that the gods and prophets and other heaven-inspired men of the ancient world, or their modern successors, the magicians and witches, could extinguish diseases by a word or touch, or by some mystic talisman, so they believed that the physician, though inspired only by the knowledge of his art, could, by directing the specific virtue of his remedies to the affected part, produce, if not exactly a similar, at least an analogous result.

The operation of the mere material agent, governed by mere human knowledge, could not, of course, be supposed capable of coping completely with what was supernatural; the effect might reasonably be expected to be feebler, the event slower, but still both cases had something mystical in them. The disease was conceived of as a sort of entity existing in the body; the remedy as a power capable of destroying it; and the whole skill of the physician and the whole art of physic, as consisting in the

adaptation of the true remedy to the actual disease. The professors of medicine, in the early times of physic, adopted views very nearly approaching those of the lay public, at least as regards the specific power and direct action of remedies; and these views, in a more diluted form and on a more circumscribed scale, have constituted the creed of the more ignorant members of the profession even down to the present day. Their own experience, to be sure, soon convinced physicians that they did not possess a specific remedy for every disease, or even for many diseases; but their doctrine, their belief, and their practice, alike showed that they still adhered to the same therapeutical principle: they prescribed their remedies, for the most part, not because they deemed them capable of fulfilling some rational indication, by modifying some function of the body, but on the empirical ground that they were the best they knew for the particular disease under treatment.

The views given in the preceding chapters of this work, respecting the real nature of diseases, and of the mode of action and power of the instruments employed by the Medical Art in their treatment, if they do not quite extinguish these notions as altogether visionary, at least reduce them to a very

humble and insignificant position amid the rational doctrines of physic. In only a very minute proportion of the numerous diseases presented to us in practice—and these few, for the most part, of slight importance—are we able to act positively or certainly, that is directly or specifically, on the diseased part or on its morbid condition; while the whole huge remainder of diseases can, as we have seen, be only indirectly, and distantly, and slightly touched by our agents in any case,—and, in a large proportion of cases, cannot be touched at all.

What a falling off is such a result as this from the *beau ideal* of a divine and perfect art, as conceived by the ignorant! What a contrast do our guessing, groping, tentative, feeble proceedings bear to the high, heroic empiricism which could boast of a direct and positive remedy for every disease!

The conclusions arrived at in our inquiries necessarily lead to doctrines respecting the treatment of diseases very different from those which formerly prevailed, and indicate the necessity of new modes of action more in conformity with such new views.

From the survey in the last chapter, it appears that, with the exception of a very few, and those comparatively insignificant diseases, the Medical Art does not possess the power of curing diseases in a direct and positive manner. In the few diseases in which it may be said to do so, speaking generally, it not seldom fails to do so in individual instances, so that such cases require to be transferred to other categories of therapeutic action.

In all other cases—that is, in the vast majority of diseases—the Medical Art, even when exerting its powers most successfully, can, in strict language, hardly be said to *cure* diseases at all. All that it professes to do, and all that it does, is to influence diseases in an indirect and partial or imperfect manner, by modifying, to a greater or less extent, the functions of certain organs, with the view and in the hope of thus modifying the processes in which the malady consists; that is to say, modifying them in such wise as to render them less dangerous to the integrity of the animal system, and more controllable by its inherent conservative and reparative process.

The degree to which the Medical Art can fulfil

even this humble office, we have seen to be infinitely less, generally speaking, than the public and even than the members of the medical profession have always believed, and still believe. Only, perhaps, in a minority of instances is the amount of modification such as to justify the conclusion that Nature has received from Art assistance of so important a kind, that the event of the disease has been made entirely different from what it would have been had no such aid been received from Art. In the majority of all cases, probably,—certainly in the majority of acute diseases,—although some relief and benefit may have been produced by Art in most of the instances in which it has been employed, the final result has been nearly the same as to its character, as if the case had been left entirely to Nature. Only in a minute proportion of cases can it be asserted with the certainty of truth, that the mediation of Art has saved life that would have been lost without its interference,—in other words, has, of itself, positively cured a disease.

It is, nevertheless, most true, that however comparatively impotent to save life that would have otherwise been lost, or even beneficially to alter the character and course of diseases in a material degree,

the Medical Art, when it condescends to leave its imaginary heights of power, and takes up its true position as a helper in man's infirmities, proves itself to be not simply useful, but most valuable in almost every case of disease, slight or severe, curable or incurable. When its appliances are directed by true knowledge of what Nature and Art respectively can and cannot do, they can be made beneficially available in the most unpromising instances. Nature can almost always be helped, in some slight degree at least, either negatively or positively, if not in both ways, by those who possess the necessary knowledge and skill.

It has been remarked more than once in the course of the present work, as a curious fact, not generally recognised by the profession, that Art is much less powerful in modifying beneficially and so to a certain extent controlling acute diseases, than chronic diseases. In the more violent inflammations and fevers, the most energetic means are often powerless in staying the progress or changing the event; insomuch that it becomes a subject of rational inquiry, not merely to what extent, but whether to any extent at all, these dangerous diseases are modified, in regard to their *mortality*, by

the Medical Art. It seems, at least, certain that in acute diseases of a violent character, the saving of life by the Medical Art, is greatly less in reality than has been commonly believed. It has not, I apprehend, been shown by positive data of sufficient authority to be trustworthy, that, in the epidemic visitations of such violent diseases as the plague, cholera, smallpox, typhus, the yellow fever, the amount of the natural mortality has been in any material degree altered, on the large scale, by the interference of Art; and I confess, that, from all that I have myself witnessed, and from all that has been authentically recorded by others, on this matter, either in the present or in past time, I have come to the conclusion that such a result can hardly be shown. Not that I deny absolutely the power of Art to save individual lives, in such cases, but merely assert that the proportion of lives saved by it is too small to modify the general results in a way recognisable by statistics.

I am not even sure that if the good and the evil effects of medical interference, in such terrible epimics, could be respectively reckoned up (which they cannot be), whether the balance would not be kept at the original level fixed by nature, by the neutralizing

powers ranged on either side. So long as the false idea prevailed in the medieal mind, that zymotie diseases could, in their earlier stages, be eut short by art, and espeeially by art in its most perturbative and heroie forms—and even while sueh aetive semi-empirieal treatment as is now in vogue, was kept up through the whole eourse of the disease,—I think it would be reasonable enough, on mere *a priori* grounds, to admit the probability of my eonjeeture in regard to the past; and when to this I add what I myself have witnessed in aetual praetiee in more than one kind of pestilenee, and what all the world knows to have been done or not done in our reeent visitations of eholera—I am disposed to extend the share of probability even to the present.

In admitting this eomparative powerlessness of the Medieal Art to save life, in those terrible diseases, we are by no means thereby impugning its real and great value even in these eases, mueh less, generally. Though it may fall short of the exeellenee whieh the ignorant have attributed to it, and whieh the benevolent desire that it should possess, it may be still of infinite serviee in its proper sphere. We do not deny the value of human efforts of another kind to save life, when perilled by

lesser accidents, though they cannot mate themselves with the thunder or the earthquake.

Neither must it be inferred, from the estimate given above of the degree of power of the Medical Art generally, that I do not justly appreciate its importance, and consequently, that I seek to depress it below its true level. Such an inference would certainty be unjust; and could only be maintained by those who should measure the judgment given, not by the standard of nature and fact, but by a rule derived from the false conventional notions that have so long prevailed in regard to the true nature of the Medical Art. If disappointment and discouragement should arise from anything that is truly delivered in these pages, the blame must lie with those who, in the first place, gave the Art, in the minds of men, a degree of elevation which it did not merit, and with those, in the second place, who accepted this as a fact, without due inquiry into the matter itself. According to the lowest estimate that can be justly formed of the Medical Art, it must still hold its pre-eminence as one of the greatest boons that human intellect has ever elaborated for the benefit of man's estate. With all its feebleness and all its uncertainties, it possesses, and

ever must possess, a suffieieney of solid truth and solid power to make it worthy of the study and pursuit of the noblest intelleets and the tenderest hearts.

But I will venture to go still further in the attempt to restriet the power—or rather to define the real power—of the Medieal Art, without any apprehension of thereby degrading it. Not only in the pestilential epidemies referred to, but even in the milder zymotie fevers, in the aeute viseeral inflammations, and in several other forms of aeute disease of a severe kind, the power of the Medieal Art positively to save life, appears to be very eir-eumseribed. This is proved by the faets brought to light in the various fields of observation and experiment, so often referred to in this volume, in whieh Nature works her own ends either entirely unfettered by Art, or fettered by it in a degree so slight as to be ineapable of modifying the results in a sensible manner.

Sueh a eonelusion, even if demonstratively proved, would still leave a wide field for the benefieial aetion of the Medieal Art, even in this very elass of diseases, as a reliever, as a helper, and even as a healer, although the higher issues of life or death

were not left at its disposal. It would still be in the power of the medical attendant to restrain occasionally, at least, over-action when distressing; to compose many functional disturbances; to allay pain; to procure sleep; to relieve uneasy sensations; to lessen morbid heat; to dispel morbid cold; to allay thirst; to free the bowels when painfully constipated; to check diarrhœa; to check or mitigate local inflammations, and feverishness in general; to institute a regimen calculated, either positively or negatively, to aid the conservative and restorative processes; to allay apprehension; to inspire confidence;—in a word, to exercise all the functions and perform all the offices of an intelligent and benevolent helper of the sick. That, in so doing, many lives that would otherwise be lost must be saved, can admit of little doubt, whatever statistics may report; that the sufferings from the disease may be thereby greatly lessened, and its course shortened, can admit of no doubt at all.

I will venture to add, that unremitting attention to these seemingly-smaller matters, and the administration of remedies rather as auxiliaries towards a cure than as positive means of cure, will bring about results of an infinitely more satisfactory kind, than

can ever await the efforts of the physician who disdains to take up so humble a ground of action, but persists in seeking to vindicate for himself and for his Art the heroic character of a controller of Nature and a conqueror of Disease.

THE END.

PRINTED BY J. E. ADLARD, BARTHOLOMEW CLOSE.

London, New Burlington Street,
February, 1857.

MR. CHURCHILL'S PUBLICATIONS.

IN

Medicine, Surgery, and Science.

DR. ADDISON.

ON THE CONSTITUTIONAL AND LOCAL EFFECTS OF DISEASE OF THE SUPRA-RENAL CAPSULES.

4to, cloth, coloured plates, 21*s.*

DR. BARLOW.

A MANUAL OF THE PRACTICE OF MEDICINE.

Fcap. 8vo, cloth, 12*s.* 6*d.*

DR. BASCOME.

A HISTORY OF EPIDEMIC PESTILENCES,

From the Earliest Ages. 8vo, cloth, 8*s.*

MR. BEASLEY.

I.

THE BOOK OF PRESCRIPTIONS,

Containing 2900 Prescriptions, collected from the Practice of the most eminent Physicians and Surgeons, English and Foreign.

24mo, cloth, 6*s.*

II.

THE DRUGGISTS' GENERAL RECEIPT-BOOK,

Comprising a copious Veterinary Formulary and Table of Veterinary Materia Medica; Patent and Proprietary Medicines, Druggists' Nostrums, &c.; Perfumery, Skin Cosmetics, Hair Cosmetics, and Teeth Cosmetics; Beverages, Dietetic Articles, and Condiments; Trade Chemicals, Miscellaneous Preparations and Compounds used in the Arts, &c.; with useful Memoranda and Tables.

Third Edition, 24mo, cloth, 6*s.*

III.

THE POCKET FORMULARY

And Synopsis of the British and Foreign Pharmacopœias; comprising standard and approved Formulæ for the Preparations and Compounds employed in Medical Practice.

Sixth Edition, corrected and enlarged, 24mo, cloth, 6*s.*

MR. JOHN E. BOWMAN.

I.

PRACTICAL CHEMISTRY,

Including Analysis. With numerous Illustrations on Wood. Second Edition, fcap. 8vo, cloth, 6*s.* 6*d.*

II.

MEDICAL CHEMISTRY.

With Illustrations on Wood. Third Edition, fcap. 8vo, cloth, 6*s.* 6*d.*

DR. CARPENTER, F.R.S.

I.

PRINCIPLES OF HUMAN PHYSIOLOGY.

With numerous Illustrations on Steel and Wood. Fifth Edition, 8vo, cloth, 26*s.*

II.

PRINCIPLES OF COMPARATIVE PHYSIOLOGY.

Illustrated with 300 Engravings on Wood. Fourth Edition, 8vo, cloth, 24s.

III.

A MANUAL OF PHYSIOLOGY.

With numerous Illustrations on Steel and Wood. Third Edition, fcap. 8vo, cloth, 12*s.* 6*d.*

IV.

THE MICROSCOPE AND ITS REVELATIONS.

With numerous Engravings on Wood. Fcap. 8vo, cloth, 12*s.* 6*d.*

DR. CHAMBERS.

DIGESTION AND ITS DERANGEMENTS.

Post 8vo, cloth, 10*s.* 6*d.*

MR. COOLEY.

COMPREHENSIVE SUPPLEMENT TO THE PHARMACOPŒIAS.

THE CYCLOPÆDIA OF PRACTICAL RECEIPTS,

And Collateral Information in the Arts, Professions, Manufactures, and Trades, including Medicine, Pharmacy, and Domestic Economy; designed as a Compendious Book of Reference for the Manufacturer, Tradesman, Amateur, and Heads of Families.

Third and greatly enlarged Edition, 8vo, cloth, 26*s.*

C. REMIGIUS FRESENIUS.

ELEMENTARY INSTRUCTION IN CHEMICAL ANALYSIS,

As practised in the Laboratory of Giessen. Edited by LLOYD BULLOCK, late Student at Giessen.

Qualitative. Fourth Edition, 8vo, cloth, 9*s.*

Quantitative. Second Edition, 8vo, cloth, 15*s.*

MR. FOWNES, Ph.D., F.R.S.

I.

A MANUAL OF CHEMISTRY.

With numerous Illustrations on Wood. Sixth Edition, fcap. 8vo, 12*s.*

Edited by H. Bence Jones, M.D., F.R.S., and A. W. Hofmann, Ph.D., F.R.S.

II.

CHEMISTRY, AS EXEMPLIFYING THE WISDOM AND BENEFICENCE OF GOD.

Second Edition, fcap. 8vo, cloth, 4*s.* 6*d.*

DR. FULLER.

ON

RHEUMATISM, RHEUMATIC GOUT, AND SCIATICA:

Their Pathology, Symptoms, and Treatment.

Second Edition, 8vo, cloth, 12*s.* 6*d.*

MR. HARDWICH.

A MANUAL OF PHOTOGRAPHIC CHEMISTRY.

Third Edition, fcap. 8vo, cloth, 6*s.* 6*d.*

MR. WHARTON JONES, F.R.S.

I.

A MANUAL OF THE PRINCIPLES AND PRACTICE

OF

OPHTHALMIC MEDICINE AND SURGERY.

Illustrated with Engravings, plain and coloured. Second Edition, fcap. 8vo, cloth, 12*s.* 6*d.*

II.

WISDOM AND BENEFICENCE OF THE ALMIGHTY AS DISPLAYED IN THE SENSE OF VISION.

Being the Actonian Prize Essay for 1851.

With Illustrations on Steel and Wood. Fcap. 8vo, cloth, 4*s.* 6*d.*

III.

DEFECTS OF SIGHT.

Their Nature, Causes, Prevention, and General Management.

Fcap. 8vo, 2*s.* 6*d.*

DR. MARCET.

ON THE COMPOSITION OF FOOD, AND HOW IT IS ADULTERATED,

With Practical Directions for its Analysis. 8vo, cloth, 6*s.* 6*d.*

MR. JOSEPH MACLISE, F.R.C.S.

SURGICAL ANATOMY.

A Series of Dissections, illustrating the Principal Regions of the Human Body.

The Second Edition, complete in XIII Fasciculi. Imp. folio, 5*s.* each; bound in cloth, £3 12*s*, or bound in morocco, £4 4*s.*

MR. J. RANALD MARTIN, F.R.S.

THE INFLUENCE OF TROPICAL CLIMATES ON EUROPEAN CONSTITUTIONS.

Originally by the late JAMES JOHNSON, M.D., and now entirely re-written; including Practical Observations on the Diseases of European Invalids on their Return from Tropical Climates.

Seventh Edition, 8vo, cloth, 16*s.*

THE PRESCRIBER'S PHARMACOPŒIA,

Containing all the Medicines in the London Pharmacopœia, arranged in Classes according to their Action, with their Composition and Doses. By a Practising Physician.

Fourth Edition, 32mo, cloth, 2*s.* 6*d.*; roan tuck (for the pocket), 3*s.* 6*d.*

DR. F. H. RAMSBOTHAM.

THE PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY.

Illustrated with 120 Plates on Steel and Wood; forming one thick handsome volume. Fourth Edition, 8vo, cloth, 22*s.*

DR. RANKING AND DR. RADCLIFFE.

HALF-YEARLY ABSTRACT OF THE MEDICAL SCIENCES.

Being a Practical and Analytical Digest of the Contents of the Principal British and Continental Medical Works published in the preceding Half-Year; together with a Critical Report of the Progress of Medicine and the Collateral Sciences during the same period.

Volume I to XXIV, 6*s.* 6*d.* each.

DR. DU BOIS REYMOND.

ANIMAL ELECTRICITY.

Edited by H. BENCE JONES, M.D., F.R.S.

With Fifty Engravings on Wood. Fcap. 8vo, cloth, 6*s.*

JOHN CHURCHILL, NEW BURLINGTON STREET.