

Practical observations on the preservation of health, and the prevention of diseases; comprising the author's experience on the disorders of childhood and old age, on scrofula, and on the effect of cathartic medicines / By Sir Anthony Carlisle.

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Carlisle, Anthony, Sir, 1768-1840.

Publication/Creation

London : J. Churchill, 1836.

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PRACTICAL OBSERVATIONS
ON THE
PRESERVATION OF HEALTH,

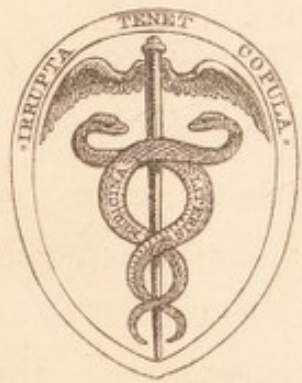
AND THE
PREVENTION OF DISEASES;

COMPRISING THE
AUTHOR'S EXPERIENCE
ON THE
DISORDERS OF CHILDHOOD AND OLD AGE,
ON SCROFULA,
AND ON
THE EFFICACY OF CATHARTIC MEDICINES.

BY
SIR ANTHONY CARLISLE, F.R.S.

PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS, AND SURGEON TO THE WESTMINSTER HOSPITAL.

"PREVENTION IS BETTER THAN CURE."



LONDON:
JOHN CHURCHILL, PRINCES STREET, SOHO.
MDCCCXXXVIII.

PRINTED BY C. ADLARD, BARTHOLOMEW CLOSE.



TO THE
DOWAGER COUNTESS OF CORK
AND ORRERY.


MADAM,

Your high talent and venerable age demand my respectful homage, and the dedication of this work in particular is due to your enlightened opinion of the Medical Profession; since you are pleased to attribute your prolonged life, and your extraordinary health, to the continued care of that Profession, notwithstanding your frame and constitution have been delicate from infancy.

That your superior faculties may long continue unimpaired, to grace the elevated circle in which you move, is the sincere wish of

Your Ladyship's faithful servant,

ANTHONY CARLISLE.



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THE following pages have been written at a mature age, and they record the assured convictions of extensive personal experience.

The work might have been expanded into a huge volume had the author adopted the book-making plan of ransacking medical libraries; but his knowledge of the invalidity of untested quotations, whether from ancient or modern books, and of the great evils which arise from repeating and accumulating inaccurate statements, induces him to rely on his own resources, and on those unquestionable evidences which have been proved.

The work is addressed to a class of readers, unknown in preceding ages—to well-educated persons, who have discovered the deficiencies of classical learning in physic, and who begin to doubt the mysteries involved in dead languages.

If in this publication the author has sacrificed worldly professional interests to a sense of public duty, he will be contented with a prospective hope that the present effort may lead to other rational expositions of the God-like vocation of healing; to an increasing and exclusive confidence of the afflicted in duly qualified practitioners; to the abatement of medical imposture; and to the extinction of quackery.

If any of the Medical Profession should object to the present book as an apparent popular appeal, and not becoming the Author's station, they may find, in the two last tracts which he has published, a sufficient extent of profundity to convince them that his habits of thinking are not estranged from the philosophy of the medical art: *vide* "Alleged Discovery of the Uses of the Spleen and Thyroid Gland," &c. 1829; and "Physiological Observations on Glandular Structures," 1838.

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INTRODUCTORY EXPOSITION.

THIS book does not pretend to instruct unprofessional readers, in anatomy, in medical science, in the various uses and services of drugs, or in the other branches of knowledge properly belonging to physic or surgery.

It does not pretend to make domestic doctors, nor to justify the chance-medley employment of medicines, whose operations are ill understood, even among philosophers. It is especially designed to shew that the healing art is progressively becoming more certain, and that it possesses many claims to be ranked with the rational arts; that its well-instructed and experienced practitioners, more especially in surgery, have arrived at a state of exactness,

and of certain knowledge, which preferably deserves the public confidence.

This advanced state of safe, rational, and practical information will, therefore, be now applied to directions for the preservation of health, and to the prevention of diseases, through plain and intelligible regulations for diet, clothing, air, and exercises; and although these subjects have been often discussed, they have not been adapted to the modern discoveries in medicine, nor to our improved knowledge of its collateral sciences.

It may be truly asserted that, until the present age, the scientific discoveries in chemistry, and even in anatomy, were seldom applied to the theories or practice of physic or surgery, because they were excluded by a scholastic preference given to the dead languages, and opposed by the metaphysical jargon of men superficially acquainted with natural knowledge.

The passive submission of the public to mere popular medical idols, sometimes created by fashion, at other times by trickery, has injured the character of the whole profession, and encouraged ignorant adventurers; for few persons

have ever gained medical notoriety without some specious worldly talents. The public have not, however, been hitherto duly informed of the extent and rationality of the healing art; and hence many plausible men, without science or much professional knowledge, and possessing no other remarkable attributes beyond assurance and cunning, have flourished and made fortunes, without leaving any recorded proofs of either skill or sagacity, or even one written trace of their reckless experience.

Medical men of superior minds do not often obtain vulgar fame, because they cannot submit to the unworthy arts which impose upon the ignorant, nor can they unite with mercenary practitioners. In our own time, the keen acuteness of Dr. Wollaston, the genius of Sir Humphrey Davey, and the deep learning and science of Dr. Thomas Young, and of Dr. Edward Ashe, were positive obstacles to worldly favour; they were far above their contemporaries, and over talented for public appreciation; for the world do not like the scrutinising, keen eye of a clever medical man.

A book like this, without quotations, may seem to be unlearned; but the writer, notwith-

standing, possesses and employs the established wisdom of preceding authors; and because compilations from ancient medical books, laid down for exact precedents, are delusive, they have become of little value, since scientific and critical researches have shewn the old doctrines to be erroneous, their evidences being either vague or inaccurate, and their inductions consequently unfounded. To rely upon such evidences at present, would be as absurd as to stuff a work, intended to display and illustrate the powers of steam and of steam-engines, of gas-lighting, or of balloon-voyaging, with classic Greek and Latin quotations. In fact, the scientific institutions of modern times are gradually abandoning the dead languages, and employing the living tongues to describe new discoveries, or improvements in all the arts and sciences.

Before the present age, mysterious doctrines exposed the art of healing to severe and just ridicule, and tempted desperate adventurers to promise more than educated men, by assuming some inspired or supernatural power: such quacks preferred to undertake hopeless cases, as cancer and consumption; and when persons

recover from falsely called incurable maladies, the impostor exults over the regular practitioner.

Since the modern advances in anatomical knowledge, and the researches of scientific chemistry, the structure, composition, and the other properties of living bodies, have become better understood, and the rational or necessary connexion between different parts of the organic frame, and the influence of medical ministrations upon them, are more apparent; but, above all the other branches of the healing art, surgery has advanced furthest as a rational and exact science, because the visible maladies which surgeons have to manage, display the progressive effects of good or harm from different ministrations, and shew the varying stages of maladies for better or worse.

The hidden or conjectural seats of inward disorders, commonly assigned to physicians, are to be sought for by circumstantial evidence: such as pain, the pulse, the state of the tongue, and the natural discharges, in all of which the judgment is liable to be perplexed by uncertainties. Hence it may be justly asserted, that surgery affords the most exact and positive evidences; and hence it happens that the most

skilful practitioners in physic have been generally trained in the schools of surgery; and this assertion requires no other proof than in the instance of inflammatory diseases, which are the most destructive to mankind if left to themselves; yet are, above all others, notoriously the most within the control of scientific management: for example, in the attack of a common inflammation, exhibiting swelling, redness, heat, and pain, happening upon the surface of the body, the due and appropriate employment of bleeding, cathartics, abstinence, and rest of the part affected, and of artificial local temperature, each or all of them being directed and adapted by a skilful surgeon, will to a certainty abate, if not wholly cure, the malady; and by circumstantial, although less palpable signs, inward inflammations may be detected and managed.

Should I only awaken the public to a more just knowledge of the real merits of the medical art, and shew the positive mischiefs of domestic doctoring and of professional impostors, my labour will not have been in vain.

It is a gross mistake to suppose that the apothecary's shop contains a remedy for every

disease, or that medical skill consists in prescribing an antidotary drug; and it is a gross deception to pretend that men, scantily instructed in anatomy, in scientific chemistry, and in the philosophy of organic bodies, can be competent to understand the complex causes of diseases, and the conditions of injured parts, or to form rational opinions for directing the various well-assured means of relief which medical experience and surgical skill have devised.

It is also an equally gross delusion to assume, that a youth, however well instructed at school in classic learning, and even well versed in the theories delivered by modern teachers, can, without long-continued observation and practical experience, become a fit judge of the perplexing and circumstantial evidence on which the knowledge of every branch of the healing practice depends.

It is equally, if not more mischievous, to assume that medical teachers and medical authors are enabled to reduce the whole art to a few general rules, by classing human maladies and infirmities under a few heads, and by extolling a few drugs, as the certain and assured specifics for all diseases.

These doctrines have conduced to fortune-making among popular practitioners, and have produced a continued series of teachers and authors, who have deceived themselves, their students, and followers, and thereby exposed the science of healing to be insulted and ridiculed by every-day scribblers.

It may be, however, proper at this time to announce that, as the art of healing advances and becomes established on the exact sciences, the profession will be proportionally more elaborate and difficult even to professional men; and thereby it must put domestic medicine at a still greater distance.

To all persons who dabble in general literature and in general knowledge, the empirical art of physic is nearly as intelligible as to those medical men who belong to the empirical school, since the whole art with them depends on individual observation and on personal experience, aided by the ill-described precedents of other similar practitioners.

These vain, if not universally injurious, delusions, have sufficiently imposed upon self-taught smatterers; but a more rational instruction will enable men to use the best assured

methods of preserving health and of preventing diseases—subjects quite within the competence of all, because they are capable of being made evident to common observation and to common sense.

Ever since the care and management of bodily ills have been confided to men, especially educated for those offices, medicine has been followed as a distinct profession. Its commencement as such is justly ascribed to the ancient Greeks, taking date from Hippocrates, who lived 460 years before Christ. This most distinguished of physicians was a highly-gifted man, and well acquainted with the limited philosophy of his day; but the knowledge of human anatomy, and of the most essential parts of medicine and surgery, was then incomplete; and the long-continued political disturbances in those countries, where the sciences and refined arts first began, prevented the steady progress of medical knowledge; and, indeed, the unscientific relics of Greek literature constituted the only source of medical information from the time of the political establishment of Christianity until the invention of type-printing. During the successive changes of states and of

scholastic institutions, and after the profession had ceased to be almost exclusively practised by the Catholic clergy, the practitioners of the healing art became subdivided into physicians, surgeons, and apothecaries, who have exercised their vocations for gain, and whose several worldly successes have depended on popular repute, sometimes obtained before experience could justify any preference, or afford any proofs of professional skill.

With the exception of the physicians and surgeons wholly devoted to the services of the army and navy, who are appointed by government, medical competitors for money and fame have never been promoted by competent authorities, neither have any of them been selected from early life on account of particular aptness in their bodily, intellectual, or moral qualities; nor have the distinctions of genius, or of superior studies, been rewarded by worldly preference, for it has been repeatedly observed by great judges of human affairs, that the worldly successes of metropolitan physicians have been seldom dependent on any remarkable talents; for even purblind youths have been brought up for surgeons, and men a

very little above idiocy have become popular doctors.

In the fine arts and in the higher stations of the law, the educated public are competent judges of superior skill; in the church, profound learning (which always demands high talents) is the characteristic of great divines; but in medicine, exercised as a mystery, impudent pretenders are often popular, whether professionally well educated or grossly ignorant. If the present publication should help to expose this prevalent folly of trusting human life to unqualified adventurers, and help to enlighten general readers, it may conduce to the welfare of many estimable persons, and encourage more men of superior talents and of high attainments, than have heretofore devoted themselves to physic and surgery: for it is to such only that the public must look for scientific practitioners, and for progressive improvements.

From out of the 20,000 volumes, now in the public library of the Royal College of Surgeons in London, any crafty smatterer in literature may purloin the materials for a specious publication upon any subject, and plausibly support any absurd doctrine; and if the pillager only

dive into scarce and obscure works, he may escape detection. Should the plunderer venture to quote profoundly learned or mysterious authors, he may snatch the repute of being a deeply-read scholar; and thus, by mere imposture, make a fortune before the public discover the futility of the nonsense which has imposed upon their credulity.

Every age, nay, every ten years, produces some of these popular medical idols, who make hay while the sun shines, and leave no trace of their professional skill to satisfy the gaping multitude. It is enough for the remaining widows and orphans to be told, that "all that could be done had been done," and that Providence had ordered the fatal event. The animal magnetism of Mesmer, the metallic tractors of Perkins, and the homœopathic nonsense of the passing day are extreme examples; but these absurdities are not greater than some of the mysteries of the modern schools: and the only way to rescue the public from these destroyers, is to advance medicine into a rational science, by generalizing the appropriate evidences, and reducing the art to plain demonstrations, amenable to common sense.

The passing movements which the politics and a forced general education produce in Europe affect the character of all the learned professions: that of medicine is the subject of this work; and however superficial thinkers may speculate on the practical applications of domestic doctoring, I am convinced that such dreamings of universal knowledge are utterly impossible, and have become much more so since the general introduction of scientific inductions into the art of healing. During the prevalence of the ancient systems of mere observation of the distinguishing signs of diseases, of their progress and events, and before the accession of those philosophical and scientific views, which discoveries in anatomy and chemistry have supplied to practitioners, any attentive observer, addicting himself to notice diseases and the effects of reputed remedies, was competent to guess from precedents, and to add to the mass of uncertain medical records. Indeed the practitioners of the profession, belonging to the empirical school, were not better qualified than unprofessional persons, unless from the extent of their especial experience. Hence the oldest and most employed practitioner

was formerly considered the best. The modern order is, however, different, since the knowledge of the circulation of the blood, of the vascular, muscular, and nervous structures has been carefully and exactly explained, and since the composition and physical properties of all animal substances have been chemically investigated.

The art of healing must ever continue to be an intricate and perplexing profession, whether exercised according to the methods laid down by the empirical school, or followed as a science; for the empirical practitioners must exercise a continued and exact attention to observe the signs of diseases, and to record the several good or bad effects of their treatment, before they can be competent to understand the complicated causes and effects presented to their experience; and hence, this method of practice necessarily requires a vast knowledge of precedents, before the individual is even capable of discerning and of discriminating facts; and then it happens, as in the profession of the law, that every new case having some peculiarity which renders the rule of precedent difficult or unsafe to be applied, a new judg-

ment must be formed and a special practice adopted.

All well-educated men must perceive the uncertainties and difficulties which belong to this system of mere personal observation, and of recorded examples; and as the time has arrived for deciding between this system and another, founded on exact scientific principles, we are now called upon to consider, whether the average capacities of mankind are better suited for the exercise of the medical profession under the empirical system, or the more philosophic one founded on science.

The historical records of the art abundantly shew, that many skilful and successful practitioners have flourished under both systems, and perhaps their writings may be all justly regarded as valuable resources for the student and practitioner.

It must be also admitted, that many popular and even fashionable practitioners have obtained high popularity without evincing any degree of superior understanding or of scientific attainments, while men of first-rate intellect, and of the highest character in the sciences on which medicine is built, have been disregarded.

With this exposition, I declare myself to be of the philosophic school, still acknowledging great obligations to empirical observers, although their cases are often contradictory, and sometimes delusive.

The author's qualifications for the task of publishing the present work rest upon his being an experienced medical officer, equally acquainted with the conditions of the most abject, from belonging to a public hospital during forty years, — with the highest class and the most affluent, from his position in society, — and with his brethren, from his long-continued public duties as a judge of the proficiency of candidates sent for examination from all the professional schools of the three kingdoms. It is not the mere review of diseases and of their causes, but the actual state of the different classes of professional men, of which he undertakes to treat. For if, as he believes it can be shewn, the medical art is, in many parts of it, arrived at such a degree of certainty and rationality as to deserve the title of a science, it may be useful to display the proofs of this scientific character, so that the whole public may be enabled to choose competent attend-

ants, and compel the ignorant or the pretender to acquire and establish a becoming claim to determine questions of health, of life, or death.

To assume to make men all equally wise and honest by the force of education is an idle vision, and this applies remarkably to the character of medical men, who are selected to study the profession, not from their suitable aptitudes or likings, but from the worldly interests of parents.

The English press teems with modern books on health, compiled by medical men for the assumed purpose of enabling the public to judge for themselves upon the means of protection against diseases. Some of these popular appeals comprise general views of anatomy, and attempts to render plain and easy the abstruse and changeable doctrines of medicine. Some are laboured compositions by men without experience, and others display a mass of conflicting, inaccurate, and learned evidence, which is neither serviceable to the profession nor to other scholars.

Supported by the claims of long and varied practical experience, and with some pretensions to a full share of the sciences on which the

healing art is founded, I have ventured to submit a plain and, I trust, a rational statement of the best known causes of common diseases, especially of those most frequent in London, and the means which experience has shewn to be useful for their prevention; being convinced that every attempt to teach unprofessional persons to distinguish the characters and causes of diseases, and to treat them medicinally, is not only futile but mischievous.

The observations of mere practical experience are of little avail, unless they are reduced to general principles by philosophic inductions from the scientific data of anatomy and chemistry, and applied to the evidences of diseases. From the want of these qualifications, the most popular practitioners of medicine in London, who are generally clever men of the world, have seldom added anything to the permanent stock of medical knowledge, or removed any of its vulgar errors; and hence the common opinion that the most employed practitioners must of necessity be the best, is a gross delusion; for such persons bequeath no other proofs of skill to their successors than the records to be found at Doctors' Commons.

The general diffusion of elementary education justifies a professional appeal to unprofessional readers, and the present state of knowledge among the industrious classes renders them quite competent to understand the subject; this work is, therefore, especially addressed to them, and preferably written for their benefit, seeing that idlers are neither willing nor capable of such instruction.

If, upon this occasion, I should be successful in presenting to the public, and to the view of the medical profession, the reasons for the faith due to us, the subject must be made plain and intelligible, and divested of those mystical terms which at present shroud every class of its practitioners from the scrutiny of reason and common sense.

It is incompatible with the general infirmities of human nature to expect that the medical profession, exercised as it is for the daily means of maintenance, can be filled with men of science, with philosophers, or even with honorable gentlemen, while the greatest number are remunerated according to the quantity of drugs they craftily sell at random as pretended antidotes, and others follow the business of

mere nurses, with all the pomp and state of academic learning.

Whether a general smattering of education will have the expected effect of improving the morals, and of strengthening the common sense of the multitude, remains to be seen; but since, in many notorious instances, the most highly educated of mankind have neither been wise in their generation nor even moral, it may well be questioned how far the intellectual capacities of the multitude will be rendered more competent to judge for themselves by extending shallow instructions.

Unquestionably the wants of the public require a great number of medical practitioners, and the majority of them must necessarily be scantily paid; but if their duties were limited to those offices which are acknowledged to be needful, and their practices governed by reason and founded on scientific knowledge, their labours would be abridged, and their services better confided in and more respected. With the exception of the medical officers in the public services, there is neither leisure nor inducement among the general practitioners to augment the sciences, or even

to deliberate upon the good or the harm which, in practice, becomes evident under their daily observation. In fact, the multitude act like the working bees; they imitate each other, or blindfold pursue the dictations of self-appointed teachers, who sometimes become popular by declamatory extravagant paradoxes, which vanish with the decline or death of their authors, and only serve to instigate the vanity of similar adventurers.

If the calculations of human reason were like the computations of the sliding-rule, some steadiness of conduct might be assured by suitable institutions; but it is far otherwise; the features and complexions of individual minds are as devious as their faces; and it seems to be evident, from observation and recorded histories, that real ameliorations are slow; that they are commonly opposed in the beginning; adopted with difficulty, and sometimes wholly suppressed for a time, to be revived in after ages as new discoveries, when the spirit of the time is better disposed.

With a competent knowledge of the medical profession, and of the public evils occasioned by mystery and imposture, I do not hesitate

to assert that the prevailing arts of concealment and of irrational practices, may be safely and beneficially removed by a plain exhibition of the rational and scientific foundations of physic and surgery; and that the total abandonment of medical mysteries must lead to higher confidence in medical men, to a more just estimate of their respective merits, and eventually to the suppression of quackery. I, therefore, proceed at once to shew the rationality of the healing art, and the impolicy of continuing, under specious, if not false, pretences, to delude the sick, and to deceive hopeless and incurable victims labouring under unknown or uncertain diseases.

I will not insult the common sense of the general reader by a pedantic display of diseased anatomy, a subject already carried to a disgusting extent in the medical profession, and for the most part of no value in discriminating diseases, or for indicating the means for their relief, because the derangements of our bodily structure are the effects of diseases, and not the temporary manifestations of bodily errors: moreover these are subjects far above the reach of popular knowledge, and, indeed,

above the competence of unscientific medical practitioners. A remarkable proof of the un-serviceableness of indiscriminately exploring the bodies of the dead, is now to be found in the storehouses of the India Company both at home and abroad, as a consequence of long-established general orders to dissect their dead soldiers, with the laudable hope of improving medical knowledge. For it is known that piles of manuscripts have been accumulated under those orders with no other than negative results, although, as I am told, not without giving great offence to the natives of India, who possess an obstinate religious reverence for the dead.

It is not from exploring the ruins of our bodies, occasioned by the disorderly workings of the living frame, that we are to seek for the knowledge of their nature, or for the means of their relief. The chief portion of those anatomical alterations are wholly beyond the limits of medical and surgical cure. Such are the ruinous alterations in the structures of the brain, the heart, the lungs, and the liver, and even many other changes occasioned by vices in living parts, not imme-

diately essential to existence, as cancer and fungoid tumors. It is quite enough for medical science and skill to contend with tractable and well understood disorders, and to extend and chasten the useful practice of the passing day.

Other popular delusions have been lately practised upon the unlearned by worldly medical writers, by quoting largely and uselessly from obsolete books; but, however unpleasant the task, I shall endeavour to draw up that veil of imposture.

The public are led to believe that the most profound, as well as the best, practical knowledge of medicine lies hidden in Latin and Greek books, and accordingly a pretended appeal to unprofessional readers, loaded with classic scraps, is concluded to be a peep behind the mystical curtain. That this is a gross and an injurious error, may be shewn by a short comparison between the state of medical knowledge in former ages and at the present time. Undoubtedly, the original and honest recorders of medical knowledge among the Greeks and Romans, reported their observations upon the characteristics of different diseases with accu-

racy; and they also stated the results of their treatment with exemplary truth. That these valuable evidences should have continued for ages to be the established authorities in every branch of the healing art is due to them and to their imitative followers; but when the knowledge of human and comparative anatomy became extended, and when the science of chemistry began to analyze the constituent materials of living creatures, and to demonstrate the properties of medicines and their effects, the medical art assumed the condition of a science, and it is now far advanced in that desirable exactness among all the superior practitioners.

To avoid trespassing on the time of the reader, with a prolix comparative estimate of the respective resources of medical men in the classic and dark ages with their present attainments in more exact and more applicable knowledge, perhaps it may be sufficient to shew that the most acute observer, and the most faithful recorder of medical evidence in former times, must have been vastly inferior in his resources to every young student of the present day; and although the sagacity of re-

mark, and the strictest truths to be found in Greek authors have obtained for many of them the place of lasting aphorisms, yet, unless we admit the ancient Greeks to have possessed superior intellectual powers to the moderns, we must regard their statements rather as those of sensible men than of medical philosophers. When it is known that most of the disorderly errors of the living body depend on the flowing of the blood, and on the contractions of the heart, which, acting the part of an hydraulic machine, is mainly engaged in propelling the blood through two extensive series of vessels called arteries and veins; that the greater or less force and frequency of the heart's action, are the known causes and signs of inflammatory diseases, a class of maladies the most extensive and destructive, if not understood and controlled; how is it possible to imagine that a medical practitioner, ignorant of the circulation of the blood, is capable of treating such diseases either rationally or with any chance of success? and yet the vaunted classic authors were those very men. They knew how to distinguish several diseases by very limited evidences; and they either adopted

the remedies reported to be appropriate, or they guessed that in some analogous instance some treatment of unknown operation had proved beneficial.

In like manner, before the constituent materials of the blood were known, it was impossible even to conjecture the nature of diseases arising from unnatural deviations in the composition of the blood. A remarkable instance of which occurs in chlorosis, producing a pallid whiteness of the countenance, accompanied by debility and irregular action of the heart, now ascertained to arise from a deficiency of the red particles of the blood, whose colour depends on iron, and for this apparently complicated malady the taking of any preparation of iron is a specific remedy.

Again, the blood is liable to be vitiated by improper food or drink; and every one may judge of the capability of the living body to withstand additions extremely different from the natural and healthy constituent materials, and their formerly supposed necessary proportions, when it is known that the blood-vessels have been often injected during the collapse of Indian cholera with warm water, having double

the quantity of sea-salt dissolved in it to that found in sea-water.

Many labouring men also drink excessive quantities of malt liquor or cider, even to the amount of eight or ten quarts in a day, all of which necessarily mingles with the circulating blood, and so remains until expelled by the watery excretions. That this extravagant and unnatural mixture should pass off with impunity is quite contrary to the laws of animal life, and to medical experience; and it is surprising that such adulterations of the blood do not immediately kill the victims of intemperance.

But the classic Greek physicians were ignorant of the composition and the circulation of the blood; they were also unacquainted with the structure of the lungs, with the elements of the air we breathe, with its chemical effects upon the blood, and with the nature of the destructive effects of other airs when respired, such as those produced by burning charcoal or from fermenting liquors, &c.

The properties of the different liquid and solid substances which compose the blood, were utterly unknown to the Greeks, who were not aware that its fluidity depended on common

water, and that water is itself compounded of two distinct elements united in known proportions, each of them possessing different properties when detached, from those belonging to them when united. Add to these philosophical accessions to modern medical knowledge, the uses and offices of the particular organs of the animal body, and their several bearings upon the states of health and disease, affording to the present practitioner resources of scientific information which have wholly changed the character of the healing profession from that of a bare observance of occurrences, or of a system of mystified conjectures; the art being now founded on the elementary knowledge of our bodily construction, or the necessary consequences of its especial organizations. Hence, the hurtful or beneficial treatment of diseased persons may be often predicted with as much precision as the effects which follow other well known causes. In every succeeding day, we find new facts in anatomy or in animal chemistry, tending to establish advances into the most desirable of all medical improvement, the assured knowledge of the manner in which our ministrations operate upon living bodies,

whether by drugs or otherwise. Already the influence of alkalies and acids, of heat and cold, of animal or vegetable diet, of local atmosphere, of clothing and exercises as they are respectively adaptable to different bodies, constitutions, ages, and sexes, are better known than formerly, as moderately educated persons may perceive by reading the older popular treatises on health, written by some of the best informed medical men of their day.

Without any delusive pretence to persuade unprofessional persons that they may become competent to understand diseases or to direct their proper remedies, I shall proceed to state, in plain terms, the expectations which I entertain from the publication of this work.

I do confidently hope and trust that the time has now arrived when every reader may become a juror upon the question of rendering the medical profession a rational science, instead of confiding in it as a veiled mystery. I do not assume that the elementary sciences are yet so completely advanced that medical philosophers can satisfactorily explain the complex workings of every form of disease, and direct their means for alleviation or cure with scien-

tific certainty. But, as I have before remarked, in one most important branch of the art, that of surgery, the visible damages or disorders which surgeons especially manage, and the remedial processes which they direct, are so clearly understood, that it is only required to transfer the better known evidences of external and visible derangements to the circumstantial proofs of similar inward disorders, to enable the surgeon to apply his anatomical science, and his practical experience in the province of a physician, when he cannot fail of the same success in similar diseases; such as those called inflammatory.

It must be granted, that a rational system of medicine is as difficult to be learnt as the empirical, founded as the latter is on personal experience and on recorded precedents; but the advantage in favour of the rational is, that scientific principles are unchangeable, and when well established in the mind of a duly-instructed youth, he commences practice with a just reliance on his elementary knowledge; and every succeeding experience supplies his expanding views with additional resources in the ministrations of his art.

A single illustration may suffice to shew the reader the practical advantages of rational and scientific practice over the doubtful and changing methods of precedent which belong to the empirical school of physic.

In former times, even until within the last seventy years, it was the established opinion among surgeons that the healing of a simple wound, such as a cut, could only be effected by the application of drugs; and numberless balsams, ointments, cerates, and plasters, were concocted to produce a succession of processes in the wound, such as suppuratives, incarnators, and cicatrisers; and each surgical artist of notoriety became the author of a novel composition. Our dispensatories, or lists of drugs and compounds, presented strange names, such as basilicon salve, traumatic balsam, &c. At length it was suddenly discovered, principally by Mr. Hunter, that the supposed processes of healing a simple wound were erroneous; and thence the especial applications to aid each of such presumed processes were useless, for minute anatomy and a correct knowledge of the proceedings of nature demonstrated the manner in which such wounds were healed,

and that all the tamperings and meddlings under false pretences only spoiled the operations of nature.

Just so do we seem to be steadily advancing in the physician's province: for the jargon of medical doctrines, as they have been called, is rapidly sinking into contempt, and the wavering opinions and consequent opposite practice which attend such upstart hypotheses, are giving way among the rising philosophical physicians and surgeons to rational and scientific rules.

The absurd scheme of Dr. John Brown for reducing the whole range of medical theory and practice to two abstract causes, was a temptation to idle students and to juvenile vanity; and accordingly his follies were suited to those who were in haste to rush into the fearful responsibilities of practice from neediness, greediness, or idleness.

The metaphysical pedantry of Cullen, although promulgated with prudence and ability, did no more than expose the insufficiency of his scheme. We seem to be now divided between mystical vitalists and a set of desperate adventurers in violence, who have no sooner

quitted the school-rooms of anatomy than they rush into unjustifiable surgical operations, or dash at the sources of life with poisonous drugs in all stages of diseased action, when it is known that the same poisons would prove destructive in vigorous health.

This adventurous rage among some modern desperadoes cannot fail to appal the public; and their chance-medley acts must expose these gamesters in human misery to the spreading interference of coroners' inquests.

According to my experience, the medical profession deserves to take a station above the reach of sarcastic sneers; and it can only do so by honestly cultivating the rational and assured methods of treating well-understood diseases and injuries, and by candidly avowing the uncertainty of curing ill-understood or incorrigible maladies: still, however, claiming the power to alleviate human sufferings under their worst forms. It is impossible that sensible men can respect or confide in a profession constantly practising delusions or making use of false pretences, said to be excusable as pious frauds.

The prescriber of useless and inactive drugs is generally suspected if not detected, and every

discovery disparages the whole profession. In a forlorn and hopeless condition of a sinking existence, the human mind is either conscious of the impossibility of recovery, or it is too far exhausted to feel its real state; and, in the former instance, the soothing words of a faithful medical attendant are more becoming than deceitful assurances, frivolous drugs, or destructive opiates.

Happily there is not any stage of human existence, even when tottering on the brink of eternity, when the sufferer, if at all conscious, may not derive some consolation from a dignified and judicious medical attendant; and when that is accompanied by an equally prudent minister of religion, the last pangs of parting life may be soothed.

If the reader should think that the censures which I have felt it my duty to make upon the faculty in this Introduction are illiberal, he may be reconciled by the following high authorities, whose notorious sarcasms fully justify the proposed changes in the moral conduct of all medical men wishing to appear honorably before an enlightened public.

Hoffmann says, "Few are the remedies whose

virtues and operations are certain ; many are those which are doubtful, suspicious, delusive, false."

"Medical prescriptions," says an eminent physician, "are written in Latin; and this practice is not only ridiculous, it is likewise dangerous. However capable physicians may be of writing Latin, I am certain apothecaries are seldom able to read it; and that dangerous mistakes in consequence of this may often happen. But supposing the apothecary ever so capable of reading the physician's prescription, he is generally otherwise employed, and the business of making up prescriptions is left entirely to the apprentice. By this means, the greatest man in the kingdom, even when he employs a first-rate physician, in reality trusts his life to the hands of an idle boy, who has not only the chance of being very ignorant, but likewise giddy and careless."

Boerhaave says, "If we compare the good which half a dozen true disciples of Æsculapius have done since their art began, with the evil that the immense number of doctors have inflicted on mankind, we must be satisfied that it would have been infinitely better if medical men had never existed."

“Medicine, in the hands of ignorant men and impostors,” says Sinibaldi, “has contributed, particularly in Europe, to deteriorate the human race.”

Frank says, “The medical police is restricted to public business, and directed against contagion, epidemics, quacks, &c.; but it is not considered that thousands are slaughtered in the quiet sick room. Governments should, at once, either banish medical men and their art, or they should take proper measures that the lives of people may be safer than at present, when they look far less after the practice of this dangerous art and the murders committed in it, than after the lowest trades.”

The following is the opinion of Kieser: “In most cases the proverb is true, that the remedy is worse than the disease, and the doctor more dangerous than the disorder. The history of medicine confirms it: every method and system has made a greater number of victims than the most contagious epidemics and the longest wars.”

Bacon asserts, that “Quacks and old women do often, in the cure of diseases, succeed better than learned physicians.”

Sydenham states, that "that which is called medicine is, indeed, rather the art of prating and telling stories, than the art of healing."

The most valuable books in the medical profession have been written by experienced men in advanced age, out of the fulness of practical knowledge. The present work claims this origin; and, although it is not expressly addressed to the profession, it contains information upon the means of preserving health which the public expect from every well-instructed practitioner. If I present myself, on this occasion, as the advocate of scientific and honorable men, I may also be allowed to be the admonitor of those who are unworthy,—I, therefore, insist on the real claims of well-instructed physicians, surgeons, and apothecaries, to be treated with respect and confidence, but not so when they pursue the arts of imposture for mere worldly ends; and I submit that the prevailing medical vice of this age is, that of inexperienced or heedless rashness in the employment of violent measures, which often unnecessarily endanger life when safe means, sagaciously directed, might be much more efficacious.

It has been my destiny to labour, without ceasing, to render my profession more certain and respectable; and, by long-continued endeavours to augment the sciences on which it is founded, to add to them the stock of my practical knowledge, to improve every kind of surgical apparatus, and the ministrations of rational remedies; and if I do not live to see obscurities displaced by certainties, and rational applications steadily and effectually applied to curable diseases, I shall die with the satisfaction of having contributed lavishly to promote these important purposes.

MEDICAL TOPOGRAPHY OF LONDON.

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OF

LONDON.

THE Metropolis of England at this time may be justly deemed the Metropolis of the World. Its vast population, its universal commerce, its men of science and of learning, its skilful artificers, and its numerous distinguished persons in all the liberal professions, are unprecedented.

London, being the seat of a great empire, contains, during the meetings of parliament, the royal family, the members of the houses of lords and commons, and ministers from foreign nations; together with their several retinues.

The gross population of the metropolis and its environs exceeds 1,750,000; the incidental fluctuation of that number varying from 30,000 to

40,000, according to the seasons of the year and public occasions.

The medical statistics of London may, therefore, be assumed to interest the whole world; but more especially the inhabitants of all large cities.

The cathedral church of St. Paul stands in $51^{\circ} 30' 49''$ north lat., and five miles and a half to the westward of Greenwich Observatory, from whence the English longitude is calculated.

The original and more ancient site of London was on the northern bank of the Thames, which is the largest river in Great Britain. The old city occupied the brow of a hill, elevated, at the highest part, about 53 feet above the high-water mark of the river Thames.

This London hill gradually ascends northward to Highgate, and its elevation there is 269 feet above the level of high water in the Thames, the flat of Hampstead heath being 427 ft. 4 in. The elevated ground of the ancient city declines gradually eastward towards the Essex marshes, which present an extensive flat, bordering the river Lea, and spreading for more than 20 miles between the town of Hertford and the north bank of the Thames at Bow Creek.

The ridge of Highgate hill is prolonged about two miles westward to Hampstead, when it again

slopes to the west, leaving a slight ravine, which gives origin to a stream called Tyeburn, or Tybourne.

Between the hills of Highgate and Hampstead a small stream descends, called the Fleet, probably from its rapid flow after heavy rains. This stream has now become a sewer, called Fleet ditch, and is arched over at the crossing of the roads of Hampstead, Highgate, and Paddington to Islington, by Battlebridge.

In the year 1477, the boundaries of the City of London were limited by a wall built for its defence, extending 2 miles and 608 feet in a semicircular form, from the Tower to the Temple. The names of the several gates are still retained. The distance between each gate was set down by Stow, in his survey of London up to 1600, as follows: "from the Tower to Ald-gate 82 perches, from Ald-gate to Bishops-gate 86 perches, from Bishops-gate to the postern of Cripple-gate 162 perches, from Cripple-gate to Alders-gate 75 perches, from Alders-gate to New-gate 66 perches, from New-gate to Lud-gate 42 perches, from Lud-gate to Fleet-dyke 60 perches, and from the Fleet-dyke to the river Thames 70 perches." The interior of this ancient city had many open spaces for ornamental gardens, fountains, and places for popular recreation, such as Moorfields

and the Temple Gardens. The still remaining gardens of Draper's hall are a remarkable example of old city grandeur.

No place in Great Britain could have presented so suitable a position for commerce as London, and it is recorded as a celebrated mart before the Romans had subdued the natives, as may be learnt by referring to Tacitus, sixty-one years before Christ, who says, that "London is not remarkable for the name of a colony, but chiefly celebrated for the riches of its merchants and commerce."

The situation of London was, no doubt, selected because of its navigable river: the deep water of the Thames extending to London bridge, above which, at the Vauxhall shoal, and where a fordable place for the Roman army occurred, it was unnavigable for large vessels. London is placed 50 miles inland; an advantage the more remarkable as, although the island of England is not extensive enough to produce a large river, the accommodation in the Thames for shipping, by means of immensely large wet docks, of recent construction, is unequalled in Europe.

Before the embankment of the Thames, its marshes must have appeared as an extensive estuary, in which the quantity of tide-water must have had comparatively little effect, and the hill of moderate acclivity, on which the city of London is placed,

must have been more remarkable and conspicuous than at present.

The Thames runs through a valley upon a bed of gravel and clay for more than 50 miles above and below London. The valley on both sides is seldom divided by equal rising mounds, and the hills rarely exceed 400 feet in height.

Marshy flats, varying in width from the margin of the river, occupy the south side from Wandsworth to Greenwich, and spread along the north side of the river from Charing Cross to Brentford; and from the banks of the river Lea to the north-east for many miles; in the whole extent of which, the ditches and drains are nearly stagnant, except when moved by the river tides. When not increased by the rains or tide, the river, throughout this range, is about a quarter of a mile broad and 12 feet deep; but in very dry seasons, at low tides, may be forded by horses.

London stretches along both sides of the river until it leaves the town hill, where it turns to the south, and the continued rows of houses on both sides assume the respective names of Lambeth and Westminster, which do not, as formerly, constitute different townships; but which are now attached to the metropolis, form part of it, and are included within the bills of mortality.

The greatest bulk of the town is situated on the north side of the river, and on the declivity of a hill, which at first rises rather abruptly, and then proceeds gradually to the north-west, forming the hills of Highgate and Hampstead, as mentioned in the commencement of this description. On the south side of the river, the ground lying flat, artificial embankments confine the water from flooding the marsh lands, which are intersected by shallow canals.

The ancient city of London was entirely supplied with spring-water from rills, fountains, springs, and wells, which brought the percolating rain and melting snow from the hills of Highgate and Hampstead, through strata of white siliceous sand, and ochry flint gravel.

The springs of these wells, on the high ground at Westminster, are seldom more than 20 feet in depth, and derive their water from a bed of white flint sand.

These waters being hard, and not suited for washing with soap, rain-water was formerly collected from the roofs of buildings, and served for the supply of wash-houses; but since the introduction of New River water by a canal, and of Colne and Thames water by different companies, the supplies of the metropolis, for ordinary purposes,

are thence obtained; and few private houses now possess the great advantage of pure spring-water, unless they have wells within their own premises.

The ebb and flow of the tides in the river occur twice in every twenty-four hours, and the regurgitation of fresh water extends from Greenwich (where the water is brackish at the flood of spring-tides) to Tide-end-town, (commonly called Teddington,) and deposits on the exposed banks of the river a large portion of the filth produced in the metropolis, and subjected to evaporation along the wide spaces of the borders of the river. As the sea-water does not ascend through the town, a large portion of the Thames water, charged with filth, must pass and repass the town at every tide, and deposit its sediment. The shores of the river, as it ebbs through the town, are largely exposed at low water, and exhibit banks of putrescent mud, which, in the summer season, abounds with the larvæ of gnats, which live upon and help to consume the filth; in fact, they are invaluable scavengers.

The river water is very pure some miles above the town; near the town it is mixed with mud, and contains a sufficient quantity of organic refuse to putrefy. When preserved in casks it purifies itself by fermentation, and remains afterwards more pure;

but it never ^{tre}purifies sensibly in the river, nor in the cisterns in which it is kept a few days for domestic purposes.

Both in summer and in winter, the river Thames abounds with flounders, eels, smelts, shads, and their probable fry, called white-bait. Salmon were formerly abundant; but of late years they have become rare, partly from the impurity of the water, occasioned by the filth of the metropolis, and partly from the incessant transit of ships, barges, and especially of steam-vessels.

On the southern embankment, between Greenwich and Black^{wall}heath, the plant called celery is indigenous: this fact is a local characteristic of the reach of brackish water.

The depth of the main channel of the river, between Greenwich and London bridge, varies from 17 to 27 feet at low water.

The rise and fall of the tide averages 22 feet; but at London bridge and at Westminster bridge, the tide is commonly about 17 ft. 10 in., liable, however, to a considerable excess at high spring-tides, when forced upwards by strong easterly winds.

Since the late free opening of the passage of the river, by the wide arches of the new London bridge, the tides ascend and descend more rapidly than

before the obstructing piers of the old one were removed; and the deposits of mud on the southern shores of the river, between Vauxhall bridge and Greenwich, have remarkably increased.

The common sewers, from every portion of the metropolis, discharge their filth into the river Thames through extensive covered arches built of bricks, and these conveyances receive all the rain-water which falls upon the town, through open iron gratings, by which means the shores are thoroughly washed, after each heavy fall of rain; and much of the salubrity of this immense town may be attributed to the admirable construction and management of these shores, under the superintendence of honorary commissioners.

The population of the city, during the middle ages, was most dense along the north border of the Thames, between the Tower and Bridewell Palace at Blackfriars, where the banquetting hall of Henry the Eighth still remains; but the gross number of London citizens in those times has not been exactly recorded. The metropolis, and the adjacent villages and suburbs, were then thinly peopled; but from a census taken in the year 1377, the population of London was 35,000, and that of York, the second city of importance in England, 11,000.

In 1631, the men, women, and children, inhabiting the 12,000 houses in the several wards of London, as certified by the Lord Mayor, were 130,268.

According to the tabulated statements in Maitland's History of England, the number of inhabitants within the city and suburbs was, in 1739, 725,903.

At the beginning of the last century, the first grand division of the metropolis, or London within the walls, including a space of not more than 360 acres, contained not much less than 140,000 persons; the then mortality being one in twenty; but, fortunately for the health of the citizens, space has become more valuable for warehouses than for human habitation, so that the population of the city, within the walls, is diminished, according to the census of 1831, to 55,778, and the rate of mortality is now reduced to one in forty.

The second division, or London without the walls, is upwards of 230 acres in area, and contained, in the beginning of the last century, 69,000 inhabitants, though at present no more than 66,000; the decrease in this division not being nearly so conspicuous as in the former.

The borough of Southwark, or third division, contained, at the above-named time, 45,000; and at

present, 91,500 inhabitants; thus, in the course of a century, more than doubling itself.

The fourth, or Westminster division, is, of all the sections, the most important in the metropolis, and, during the same time, it has increased from 130,000 to 202,050.

The fifth is the limits of the bills of mortality, so denominated from the frequent recurrence of different plagues and pestilences which, in former times, ravaged London and its environs, and led to the establishment of notices, called weekly bills of mortality, which were kept and published by the parish clerks, as a warning to the government and to others to leave London whenever those scourges became more fatal than usual. The population of this division was 626,000 in the beginning of the last century, and now amounts to 760,000.

The sixth and last division is made up of a few parishes, not within the bills of mortality, but adjoining the metropolis; and the increase of population of the entire metropolis is mainly owing to the immense extension of these parishes; as in the beginning of the last century we find they only contained 9,150 persons, while they at present afford a return of 293,560.

From the foregoing statements of the population of the divisions of the metropolis, it appears that,

in the beginning of this century, the entire population was 1,024,150, and that now it amounts to upwards of 1,500,000, including the usual allowance for seamen and strangers; thus, affording an increase nearly of 222 per cent.; while the whole population of England is said to have increased from 5,475,000 to 13,888,000, or nearly 254 per cent.

Objections may undoubtedly be raised to the limits of the metropolis above assumed, and therefore it may be as well to add, that the total population of all the parishes whose churches are situate within eight English miles rectilinear from St. Paul's Cathedral, amounted to 1,031,500, in 1801; to 1,240,200, in 1811; to 1,481,500, in 1821; and, in 1831, to 1,776,556; a twenty-fifth part being added, in all these instances, as a moderate allowance for the immense number of British seamen belonging to the registered shipping on the Thames, for soldiers quartered in the Tower and various other barracks, as well as for the transitory population, always arriving and departing so irregularly as to prevent the enumeration of the individuals in a city where no police regulations exist regarding strangers and temporary sojourners.

Contrasting the population of Paris in the same extended sense comprising eight miles round a given

centre with the foregoing, it appears very much smaller than London; the population of the Seine amounting, in the year 1818, to 637,000; in 1820, to 742,000; and in 1829, to 1,013,000.

The history of mankind abundantly proves the inevitable liability of all classes, in a closely connected community, to infectious diseases, such as the plague, small-pox, measles, scarlet fever, Indian cholera, &c., which have never been effectually prevented in large cities by even the most rigorous quarantine.

The increased duration of life in England is a phenomenon which has attracted more notice abroad than at home, but seems now to be generally admitted by those who have studied the subject with the best means of arriving at a well founded conviction. From the parish-register returns of the decennial years of the greater part of the last century, (1700 to 1780,) which vary from one death in thirty-one to one in forty-two, is deduced an average rate of mortality of one in thirty-seven or thirty-eight of the then existing population; this average becomes one in forty-five, in the year 1790; one in forty-eight, in 1800; one in fifty-four, in 1810; and one in sixty, in England and Wales, in the ten years preceding 1820.

The causes for this increase in the average dura-

tion of life, up to the year 1821, may be attributed to the houses being less crowded, to better food, better clothing, and more cleanliness among the several classes of society; to these may be added, the increased extension of surface-drainage, and of underground sewers, both of which may have acted beneficially on health;—the former upon that of the agricultural population, and the second upon that of the inhabitants of towns. The improved treatment of diseases has also been stated in some of the returns as a cause of decreased mortality, and more especially the substitution of vaccination for the small-pox. Infectious fevers have almost disappeared even in the metropolis; and intermittents, which heretofore, under the name of ague, infested the country very extensively (especially the fen districts) are no longer so prevalent. So, in former times, the plague, as it was called, disappeared as soon as the city of London had been rebuilt after the great fire in 1666; also the scurvy, and, before that, the leprosy became gradually extinct, when the reformation of religion and improvements in agriculture had removed the necessity of eating salt fish and salted meats during a great part of the year.

London used always to suffer heavily from the

plague, and, in the great pestilence which, originating in the East in 1345, reached England in 1348, it seems to be well authenticated that 100,000 persons died and were buried in the city. In the year 1635, above 35,000 died of the plague; in 1636, above 10,000; and 68,596 persons died in the last plague of 1665. After the conflagration, which destroyed nearly the whole city, in 1666, the plague abated, and finally disappears from the bills of mortality in 1679.

Although the metropolis of Britain may be justly considered as healthy and exempt from the pestilential and local diseases which, at certain seasons, invade many other large cities, it is not so healthy for permanent residence, or for continued generations, as the free space and uncontaminated air of a well chosen rural habitation.

The injurious effects of London air are more distinctly manifested during certain stages of life, and among persons engaged in certain occupations. Narrow alleys or streets in densely peopled districts are notoriously less salutary than the squares and wide streets; still it is satisfactory to be aware, that no particular district within the vast extent of London and its suburbs is liable to any disease, which can be wholly imputed to its local disadvan-

tages, or even to the nuisances of bad ventilation and uncleanness.

Many of the streets and alleys in Spitalfields, Clerkenwell, St. Giles', and Smithfield, and the passages leading to the Thames, along both of its town-margins, are filthy and densely peopled by slovenly and dissolute persons; and yet these notoriously unfavorable habitations pour out a ragged and dirty multitude, of all ages and both sexes, on every fine day, many of them in apparently vigorous health. Among persons, by long residence, inured to such noisome conditions, habit becomes a source of protection; for strangers are liable to be attacked by fevers and bowel complaints, until they are accustomed to these unwholesome influences. A striking example of this occurs in the London schools of anatomy, where fresh students from the country are often attacked, at the commencement of their studies, with disorders of the bowels or dangerous fevers, while the initiated escape with impunity. Occasional visitors to London, and country-servants before they become accustomed to the close underground kitchens of the town, are also liable to fevers. Prisoners in the metropolitan goals are likewise disordered from the same causes. A talented patient of mine, confined in the Fleet prison under

a chancery-suit, informed me that, after a few months' confinement, a general depression of animal spirits and of bodily vigour came on, and with this growing mental and corporeal debility, the confined all soon become indifferent, and a general apathy takes the place of anxiety for liberty.

The excellent regulation of the arched underground shores, which extend beneath every street, and convey the great mass of offensive filth into the river Thames, in addition to the penal obligations which compel every housekeeper to have putrescent refuse taken away from his premises by appointed scavengers, and the general substitution of water-closets for stagnant cesspools, all contribute to render London less offensive than any other large city. These deficiencies in other places are, however, in part compensated by natural agencies; for, in hot climates, the dogs, birds, jackals, or insects do those offices; at Amsterdam, the storks; at Paris, the swine; at Lisbon, the dogs; and at Calcutta, the adjutant bird and jackals are the substitutes for scavengers and shores.

It is, however, proper to abate a vulgar prejudice upon this point; for, notwithstanding the disgust to our instinctive feelings from the smell of dung and putrefying substances, philosophical enquiries have proved that they do not occasion any known disease,

and that they are not the sources of any particular pestilence.

When the Indian cholera approached Paris, the French government appointed a commission, consisting of medical philosophers and men of science, to enquire into the character of that disease, the prevention of its communication, and the means for its cure or abatement. Their report was most honorably candid, but not conclusive upon any point, with this exception, that the accumulation of putrescent substances, and even the unwholesome trades or bad diets of labouring persons appeared to have little influence over the progress and spreading of the disease; and according to a former equally scientific report, the removal of the thousands of cart-loads of human carcasses from the cemetery of the Innocents, was entirely harmless, although a consequent pestilence was generally dreaded.

At the time of the cholera in London, I took occasion, as a commissioner of sewers for Westminster, to obtain from the best authorities an unprejudiced report on the health of the workmen employed in cleansing the public sewers for that district. The number of men so employed, amounted to between forty and fifty, whose ages varied from thirty to sixty years; and the number of years they had been so occupied was found to be from 9 to 20.

Slight colds, pains in the bowels and limbs were very common among them; sometimes, injuries from foul air in the shores or cesspools happened, but not serious ones; occasionally, there were instances of the men being burnt by gas: putrid fevers were found to be very rare; indeed, with the exception of three instances none appeared on record, and in none of these cases were they attended with loss of life.

The average number of men employed in cleansing the sewers, under the jurisdiction of the above commission, was fifty-four; of whom only four had been attacked with any illness during the last fifteen months, preceding the date of the report (October 3, 1832); not any had died; but all had resumed their work in a day or two.

Again, the statement of Mr. James Creevy, of Drury lane, whose workmen were employed about the same time in carrying away night soil, &c., is a confirmation of the above. He employed nine men, whose ages varied from 30 to 60 years, and who had been in his employment from 7 to 13 years: none of them had been known to be ill at the regular night-work; although almost all had been blind from erysipelas for a day or two after cleansing very foul privies, such as those attached to barracks or work-houses. All his workmen drank a considerable

quantity of gin, and were in the habit of smoking much tobacco during their midnight operations, but little during the day.

Mr. Creevy also stated that two of his men in particular frequently returned home with their eyes in a strong state of inflammation,—the one employed at the bottom of the cesspool, and the other stationed at the top to draw up its contents; but that after having washed and applied a cold lotion, they had always been able to return to their employment at the end of twenty-four hours, without the aid of medical assistance, and never found any unfavorable symptoms to supervene; and that he thought night-men generally enjoyed *better health* than most labouring men.

Another remarkable occurrence in these reports, was the frequency of wounds in the legs and naked arms of the labourers in cesspools and drains, from broken bottles and pots, in which cases no ill consequence happened either to the injured limbs or to the constitutional health; whereas very slight wounds, arising from human dissections, often prove dangerous, or fatal, although the corpse had not been putrid, or poisoned by any pestilential disease. This peculiarity, as to the infection of human effluvia, is further proved by the general exemption of horse butchers, and all other animal

butchers from bad consequences after wounds. In gaol fever, and perhaps in all other similar pestilences imputable to human effluvia, the poison appears to be generated by living beings, and not, as is vulgarly supposed, from the putrefaction of dead matter.

The special circumstances belonging to the locality of London, its average temperature and vicissitudes of weather during the different seasons of the year, and the habits of its several conditions of persons, are notoriously influential causes of temporary derangement in the health of children, grown up, and aged people; and although this immense town may be regarded as free from any peculiar local cause of disease, and justly entitled to be considered healthful, yet there are many causes of sickness which affect visitors and children, and which, in the progress of succeeding generations, decidedly enfeeble its citizens, so as eventually to extinguish their families, through a progressive degeneracy.

Winds from the south-west to the north-west, and from south-east to north-east are the most prevalent. The westerly winds blow from the great Atlantic Ocean, passing, before they reach London, over part of Great Britain, for about 200 miles, and

over Ireland, when they veer to the north. They are generally moist on arriving at the western coast, and become drier from deposits of rain, as the watery clouds cross the land, and before they pass the eastern side of the island. During the prevalence of these winds, the barometer is generally low—they are most frequent in February, September, November, and December. The easterly winds blow over the large continent of Europe; they are commonly dry, and are most prevalent in January, March, and the beginning of April, and the barometer is then high. These winds are cold, except sometimes when they blow in July and August, while the westerly winds are generally warm, except in November, and when they verge to the north.

The average temperature of London during the summer months is 70 of Fahrenheit, the thermometer varying between 60 and 80 degrees; the average temperature during the winter months is stated to be 25, the thermometer varying between 20 and 30 degrees; but the vicissitudes of the seasons afford a few instances of about 86 in the summer, and below zero in the winter.

The heat is never so oppressive as in tropical climates, and the cold is seldom such as to require a total change in dress and household accommodations.

The average temperature of the autumnal and

spring months is much influenced by the direction of the winds; those from the east being dry and bleak, those from the west damp and rainy.

This subject has been lately examined through the scientific enquiries of chemistry, but with less satisfaction than might have been expected; for the extreme diffusion of matter in the air, and the indefinite capability of the atmosphere to admit of mixtures of other gasses and of vaporized substances, render it impossible to detect very minute portions of extraneous substances; hence we smell the odours of flowers and the slightest stench not appreciable by any chemical experiment: even metals and earths are evaporizable at atmospheric temperatures, and become evident to the superlative test-organ of smell, in the handling of brass, and in the wet scouring of stone stairs with pipe-clay.

Happily, few of the offensively smelling mixtures are unwholesome, as it has been shewn by late enquiries; but perhaps they are made disagreeable in the nose as a warning to the palate, and thence opposed to our natural instinct; for the smelling apparatus is placed over the mouth, and first denotes the fitness or unfitness of dietetic things.

London air, when dry, is always loaded with, and often obscured by dust, which consists of ashes and soot, arising from pit-coal (the fuel usually burnt),

horse-dung, gravel and granite, beaten and ground to powder by the numerous horses and vehicles with which the streets are crowded. These powders, with various others, penetrate houses everywhere, and undoubtedly enter the lungs, and not uncommonly produce coughs, with difficulty of breathing, in people who are lately arrived in London from the country.

Experience, on the large and gross scale, proves that air has a powerful effect upon health, and this is remarkably evinced in the countenances and disorders of particular trades, in those of children confined to narrow streets and small rooms, and still more notoriously in the rapid recovery of invalids after a removal from cities into an open, country air.

From the bills of mortality, it appears that the hurtful effects of London air are remarkably manifested by the comparative number of deaths of children, in London and in rural places; such deaths being more than four times (within the London bills of mortality) above those which occur among the rural population. Under these circumstances, it is evident that large cities are highly influential in reducing the numbers of mankind, notwithstanding the earlier and more frequent marriages in the metropolis.

It is my decided conviction that the destroying

influences of large cities and of manufactories more than counterbalance the alleged increase of the British population, while they give rise to a degenerate, enfeebled, and demoralized race of town-bred citizens, who lack that happy union of a sound mind united to a sound body, which was held to be superlatively valuable by Roman statesmen.

Wealthy mothers are too apt to abandon the natural duty of nursing their children, and thereby expose them to the ill regulated habits of hired wet nurses, or to the still worse practice of over-feeding upon artificial diet, containing bread:—the consequences of either plan are visited upon the innocents in some way of sickness, such as deranged bowels, convulsions, and dropsy of the brain; or if, by chance, the infant escape those perils, and the still greater arising from calomel given for temporary relief, the poor puny child is assailed by their united consequences, and lingers into a stage of feeble maturity, to perish from the ignorance or folly of its parents.

If ever men should become so far civilized as to cooperate faithfully for each other's good, a further advancement in knowledge might shew them the justice of moving whole families from the progressing injury of city residences, from unwholesome localities, and even from certain climates to

others more genial, calculated to remove the bad effects of permanent settlements; but these views are Utopian, and in utter opposition to those prevailing doctrines which, I fear, are undermining the bodily constitution of a large portion of our countrymen, and by sanctioning the unsocial vices of greediness and monopoly, are rapidly driving all Europe into a state of violence and confusion, which may ultimately stop the progress of every science, and (were it not for the indestructible extension of printed books,) bring darkness and barbarism again over the civilized world.

Air out of doors is always beneficial to the inhabitants of large towns; but very early rising for that purpose is more fatiguing than useful to those who are obliged to pass the day in anxious attention, or in bodily exertion. The public parks, and open fields, adjoining the metropolis, are very serviceable to the health of its constant residents; but above all, the cheap accommodation of the steam-boats, for a voyage to the sea and home again, may be reckoned among the most health-giving improvements of our age.

The inhabitants of London consist of various classes, living between the extremes of voluptuous luxury and of the most abject, unhealthy misery.

Although the advantages of affluence present better means for preserving the health of families, they are not always properly employed.

Persons of the first class include those living on their paternal fortune, or on riches suddenly acquired, comprehending a few successful speculators and monopolists: the females of this class live almost constantly within doors; their houses are very close, although the rooms are spacious, and perfectly clean and neat; and whenever they venture abroad, their carriages afford them the little exercise they take;—this gives them a delicacy of appearance difficult to be described. Their station, however, prevents them from being exposed to infection or sudden cold, excepting when at public places or nightly entertainments, such being ordinary causes of inflammatory diseases. The complaints therefore of persons of this class are often slight and very irregular, nor can they bear severe treatment; their disorders must, therefore, be touched with a slight hand; and, notwithstanding that the diseases of the females of this class are frequent, yet they are seldom suddenly fatal, so that they live to a great age if not cut off in early life by pulmonary consumption.

The men of this richer class are much in the open air, and use great exercise; they live in the country during part of the year, when they are often occupied

in hunting and shooting, which contribute materially to render their constitutions sufficiently strong, and but little susceptible of diseases, which, however, when they do occur, are active and well marked, and bear the operation of powerful remedies.

Among the more wealthy adults, the habits are not always favorable to health: in the springtide of youth, the males waste themselves by indulgences until appetites have ceased, and the capabilities for gratification are exhausted.

The young females of this class, from their wearisome sedentary confinement and studies, seem to demand the stimulus of wine; their dwelling-rooms are hot and close; their dresses pervious to every blast; and before growth is finished, they are brought out for show at midnight revels, and exposed during the most unsuitable months of winter to repeated transits from close carriages to the open air, often from the hour of ten at night until four o'clock in the morning:—certainly no factory child in a cotton mill can be worse treated.

The domestic male servants of this class use but little exercise, and none when they can by any possibility avoid it, whereby they suffer from irritability;—the carriage servants, being often exposed to the inclemencies of the weather, during the winter season, till three or four o'clock in the morning, are

exceedingly subject to inflammatory diseases, particularly of the lungs. These domestic servants, moreover, usually partake of the habits of their masters, and readily fall into their good or bad ways of living, either from imitation or restraint. Being for the most part much confined to the house, they are seldom long lived, although few diseases which befall either these male or female servants are attributable to confinement, but rather to the drinking of bad fermented liquors, and occasionally to the vice of dram drinking. To these causes, and to want of sufficient exercise in the open air, may be imputed occasional disorders of the stomach, and a want of cheerfulness. The out-of-doors servants of affluent persons are generally profligate, and addicted to those vices occasioned by late hours, exposure to inclement weather, and idleness. The female attendants on fashionable ladies are apt to imitate their mistresses, and in conjunction with the butlers and valets, pass the tedious hours of nightly waiting in unrestrained dissipation.

Of persons engaged in professions and business, the different grades vary from the pampered, rich citizen, with town and country residences, to the homely shopkeeper.

Affluent merchants and bankers form the next class; the women of which live a regular life, going

to bed generally before midnight, and rising about nine in the morning. Most of these families have villas near town, where the women and children pass much of their time, especially during the summer months. Hence they are much more in the air, and consequently have neither the delicacy nor the irritability of the more fashionable class, and possess a better state of health; their diseases are more regular, and they bear the effects of powerful remedies.

Some men of this class lead a sedentary life, are much employed in writing, generally leaning on their chests, and are subject to derangements of the digestive organs; others of them use exercise on horseback, and often sleep in the country;—all of them are luxurious livers.

The children of these wealthy citizens are for the most part educated at boarding-schools, a few miles from the metropolis; but in these seminaries, which contain a great many pupils, the economy of diet being made a principal object of profit, and the discipline being seldom ruled for health,—the girls are especially liable to bodily infirmities, such as crookedness and lameness, and coughs which lead to consumption.

The lesser tradesmen and shopkeepers, who form the next class, are also sober and regular in

their modes of life, but are much confined to their houses, especially the women, and this subjects them to several diseases, sometimes violent and fatal: nor are those of the men whose business exposes them to frequent changes from close rooms to the open air, in all weathers, less liable to destructive diseases, and hence they rarely attain to old age.

The last class consists of the working part of the manufacturers, and labourers of all denominations, whose habits are seldom wisely or even prudently regulated; they are often disorderly and improvident; working hard and being skilful in their occupations, many of them earn more money than suffices for food, and spend the surplus in strong and sophisticated liquors and ardent spirits, so that their lives are passed between excessive labour and a state of stupefaction. Their wives and offspring, passing from abundance to distress almost every week, are, from bad example, often inclined to lead a disorderly life. Among these, scrofulous and pulmonary complaints are particularly common and fatal.

The natural love, however, of independence, and the want of continued restraint, give a joyous face and open character to the mechanic, artisan, and free labourer, seldom observable in the bonded servant; the song of hilarity, the blithesome whistle of the contented cobbler in his little dusky stall,

which beguile the hours of much bodily toil, are not heard in the mansions of the noble; neither is the merry joke nor happy laugh permitted in the hall of the wealthy.

The habits of the most affluent are luxurious, and their time divided between anxious attention during the morning hours, and the indulgences of the table in the evening. Such persons, if prosperous, generally live to old age, but many die prematurely from injudicious diet, from disappointed ambition, or from chagrin at the failure of worldly enterprises. The sedentary, assiduous shopkeeper generally lives prudently, takes his meals at early hours with his family, and undergoes little exertion of body or mind: if successful, he lives long, and his heirs often squander his savings and neglect his business. The race of such persons, who are for the most part country born, seldom extends to the third generation; and if even they happen to have lived prudently, and continue their family vocation, each successive town-bred generation deteriorates until the family becomes extinct. I believe that no persons, town-bred in both the male and female lines, ever extend their children to the fourth generation; for they progressively dwindle, and lose the respective sexual characters until their procreative ability ceases.

Experience and observation have convinced me that, in well-regulated establishments, servitude, particularly of domestics, although it may partake in some measure of slavery, is, at this epoch, far preferable to the daily uncertainties and vicissitudes of the free labourer. But here arises an appalling difficulty,—the condition of domestic servitude almost prohibits matrimony, while a suitable union between the sexes has been, until now, regarded as a divine ordination, and, by moral philosophers, as the best security for good conduct, by rendering it the interest and duties of two individuals, to exchange their best affection, and to devote themselves generously to the future welfare of their progeny; thus affording a natural tie to their mutual private and public virtues.

Without pretending to be a competent judge of the modern doctrines of political economy, I cannot agree to the cold-blooded restraints and punishments attempted to be fixed upon those who have the strongest animal passions, and to prohibit the most powerful of our race from sinking into selfishness, instead of being the proud and responsible parents of future generations.*

The superior strength and health of labouring

* This subject is well and beautifully discussed by my friend, Mr. Sharon Turner, in his *Sacred History of the World*, vol. iii.

persons is notorious, provided they live temperately and prudently, and it is the duty of their medical instructors to guide them in those wise habits; for although some profligates, of both sexes, escape for awhile with impunity, the punishment of impaired health, of worldly distress, and loss of character, come at last, and often too late for repentance.

Whatever the ultimate political or moral results of the practical working of the abstract doctrines for accumulating wealth, and for reducing population may be, it is obvious to a medical philosopher, that the moral and physical debasement of the English character must be certain consequences; and however flattering the illusory dreamings of these selfish economists may be for a time, the reverie must terminate either in the extermination of a manly, virtuous, and industrious people, or in some dreadful insurrection.

The health of mankind, in every stage and condition of life, depends on temperance and on proper diet, on suitable clothing, on cleanliness, and on protection against severities of weather. Happily for the people of England, its climate occasions fewer diseases than that of any other country, and the produce of its soil yields the most abundant supplies for human sustenance.

England is distinguished for growing the best kinds of corn, and of nourishing vegetables; also for rearing the greatest quantity of cattle, and of other creatures fitted for the food of man. And it may afford just consolation to the humble workman to know, from medical authority, that the cheapest kinds of flesh, fish, and vegetables, are the most wholesome.

Under such blessings, obtainable by health and strength-giving labour, and under a well-advised plan of frugality, the farmers, workmen, and even the less fortunate artisans and manufacturers, may enjoy the fruits of their toil, with little worldly anxiety, and preserve a peaceful mind in a more vigorous body than those who indulge in vain luxuries.

But if contentment, and a religious submission to the state in which we are severally cast, should be neglected, the waywardness of our nature, the bad precepts of designing men, and evil temptations, may destroy good dispositions, domestic comfort, and happiness, perverting all the great duties and obligations of parent and child, of protector and protected, and thus spoil every benefit of a social union, where the labours of the mind and the produce of the hand are mutually serviceable, shedding their benefits alike upon the powerful and the humble, if

they do but wisely and temperately use them. On a just distribution of the goods which providence and human skill present, the health and happiness of every community are ordained to rest; for whether any evil visitation happens to be pestilence, famine, deluge, or earthquake, it equally afflicts the crowned head and the houseless poor.

From infancy to old age life is continually supported by food, and health is mainly preserved by suitable diet: for, although air, exercises, and clothing, are each of them, when properly ordered, conducive to health, they do not affect the living body so constantly as daily food.

The natural food of man varies, even in his rudest condition, with the local products of his country; while the more civilized are supplied through commerce with every article which the world furnishes. An estimate of the comparative wholesomeness of animal food, of vegetable or mixed diet, may be thus obtained, and the general results recorded.

It does not, however, appear from those general evidences, that man is preferably restricted to any special regimen, but privileged to live variously; and hence his fitness for every climate, whether vegetable or animal nature predominates. These subjects, however, do not strictly belong to my

present observations on the health of the inhabitants of large towns.

In all states and conditions, the first sustenance of infants is the mother's milk, and a similar provision is ordained for the whole creation : milk contains the proper elements for the maintenance and growth of the helpless young, and it is the appointed food of infants, until their teeth are formed. The properties of milk are alike in the lioness and in the ewe, in the wolf and in the rabbit, although the food of those animals, when independent of parental supplies, is so notoriously dissimilar.

The yolks of eggs, resembling milk, afford the first few days' nutriment to chickens; and in doves, the crops of both parents form milk for their nestlings. All young birds, whether they be afterwards destined to feed upon grain or flesh, require animal diet during the chick state. The partridge and pheasant, as well as domestic fowls, cannot be reared without insects, eggs, or worms.

These lessons of nature are strictly applicable to infants; the neglect of them produces the greatest portion of their diseases, and, among the inhabitants of large towns, leads to a feebleness of constitution through after life.

The imperative duty of mothers to nourish their offspring is not merely essential to the health

of the infant, but the neglect is injurious to the parent.

The long continuance of infancy denotes the natural dependence of the infant on the mother's milk; and, until the first teeth appear, every other kind of food is unsuitable. The diet of the mother, both before and during the time of nursing, is equally important to her own health and to that of her offspring; and I believe that medical compliance with the vulgar error, of giving porter or wine to nurses, as well as the more injurious custom of feeding infants with bread, arises from want of due consideration.

Our sacred book informs us, that "the mother of Samson was advised by a holy man to avoid drinking wine and strong liquors, and not to eat of any unclean thing;" upon which dietetic conditions she was promised a child.

It is not only needful to restrict infant food to milk for the first year, but also to direct the diet of young children, until their stomachs become sufficiently strong to change artificial food into wholesome nutriment; and as animal substances resemble our flesh and blood more than vegetables, and our infant organs are not contrived for the more complicated work of digesting vegetables, common sense points out the preferableness of animal diet for young children.

After the first teeth are produced, and during the earlier years of childhood, the food should consist chiefly of milk, fowls, mutton, and beef, and those farinaceous articles which easily dissolve in milk or broths. I can truly assert that the greatest number of infantile diseases arise from improper diet; and my experience, from a long residence in London, has proved that town-born children are more difficult to rear than those bred in the country: notwithstanding which, the children of cities may be kept in good health, by a more exact regulation of diet, clothing, air, and exercise than robust and rustic children require.

The most objectionable articles of juvenile diet are fruits, salads, and all uncooked vegetables, sugared pastry, nuts, cheese, veal, pork, and stewed meats: even bread should be gradually introduced, mingling it with animal food.

It is an injurious mistake to suppose that the young stomach becomes strengthened by laborious efforts to subdue indigestible things, for the contrary happens during those exhausting labours: the crude products of imperfect digestion charge the body with noxious materials, and form the chief sources of disease; and although such indiscretions often pass with impunity among hardy children, they occasionally hurry even them to a premature grave.

Young children are by nature ordained to be exempt from many disorders which befall grown up persons; the busy endeavours of growth prevent many errors of the body which afterwards happen when it is merely occupied in maintaining a fixed bulk; but, during the whole of our existence, a suitable selection of diet, and temperance, are the best securities for health.

In the stages of childhood, wine and other strong liquors are generally hurtful, and the premature habit of drinking them induces an increasing demand, which often leads to intemperance. The ill-informed possessor of wealth is too apt to regard all the expensive things consumed by the families of exalted rank as most desirable, without knowing the havoc produced by indulging in luxuries. We occasionally witness the destructive effects of those vicious examples, when followed by persons who become suddenly rich; a fate similar to that of the poor ignorant strangers who were brought to London, from a rude and simple state in their uncivilized native land. These fatal indulgencies destroyed the late South Sea Islanders and Esquimaux, after a short stay in London; and similar errors in diet occasion the greatest number of infantile diseases and of premature deaths, among persons naturally sound and strong.

Adaptations of the most suitable kinds of diet to children, and grown up persons of different constitutions, require profound medical knowledge: the misdirection of daily food being even more injurious than occasional errors in giving drugs, the advice of experienced practitioners as to diet is, therefore, equally deserving of payment; and, as it affords the constant means for preserving health, and for preventing diseases, it belongs exclusively to medical men.

The next subject of bodily management is clothing; and it demands especial attention among the inhabitants of large towns, who are confined to their houses by business, because the bodily frame of such persons is more tender than that of rustics.

From infancy onward throughout life, town dresses should be made to defend the principal surfaces of the body and limbs against cold and damp; but vanity and fashion have overthrown the experienced wisdom of our forefathers in this respect, by substituting flimsy garments for thick woollens, and by exposing the naked surfaces of children and young persons for admiration, at the expense of their temporary and future health. The apparent impunity of half-naked rustics bears no analogy to the tender constitutions of town-bred children; but even among them many die in the hardening; and in the bleak,

cold regions, rustics suffer from scrofula and consumption more frequently than the well covered children of cities.

I am not aware of any good reason for disregarding our own climate, by following the fashions of warmer and drier countries; but we often mistake the customs of our neighbours in Paris, who have the sense to adapt their winter clothing to cold, dry weather, and to live chiefly out of doors in the heat of summer. Having abandoned many of the substantial materials worn by our ancestors, the only remaining choice is among the articles now supplied by modern manufacturers.

I consider calico preferable to linen, both for personal covering and for beds; and it should be of closer and thicker texture for winter use than for summer.

Flannel is a sort of substitute for old fashioned outer garments, but it is an inadequate defence against cold and damp. A wash-leather waistcoat worn over a calico shirt, is the least penetrable garment; and for delicate persons who have weak lungs it is more useful than multiplied flannels.

The stockings and shoes should be suited to the seasons—woollen stockings and thick shoes, during the wet and cold seasons, should be worn by all persons who have to walk in the streets. I cannot

dismiss this subject without severely blaming the folly of English females as to the flimsy materials of their shoes; it is deplorable to see them wading in the mud without any defence against its penetration.

The modern dresses of men are improved from the head to the feet, excepting in those few instances of silly persons who try to resemble women, and make themselves equally ridiculous with those females who unwisely imitate men.

An exact chronological history of the rise and progress of the Thames would have been a valuable addition to this work, if its limited purport had justified it. Perhaps, however, the health-seeking reader may be gratified to receive a panoramic sketch of the greatest river in England.

The Thames half crosses our island through low districts, having few ravines, bounded by mountainous acclivities on both sides, and therefore unlike the sources of its opposite great western river, the Severn. Above the city of Oxford, several flat marshes occur, and the united branches, named the Thame and Isis, proceed slowly, and without rocky or rapid falls, to London. In all precipitous rivers, proceeding directly from high mountains, their sources present squared masses of rocks, which become progressively worn by attrition lose their

angular surfaces, and, becoming smaller in bulk as the river proceeds toward the sea, present a succession of diminishing sized gravel and sand, until the earthy alluvium alone descends to the final estuary. The ancient embankments of the Thames below London, and the history of Dagenham Marsh, shew that the bed of the river is rising toward its termination, and that the slow working of inland floods does not perceptibly deepen its upper sources, such being "contrary to the visible effects of mountain torrents."

SCROFULA.

ON
SCROFULA.

EVERY succeeding year teems with changes in the theories of physic, many of them at variance with science, and, in some instances, with logic; and such continued revolutions induce persons of superior intelligence to regard the whole profession as a vague and unscientific art; indeed, the continued abstract hypotheses about vitality seem to sanction that decision, for we are, at this day, as much in the dark respecting vitality as the metaphysicians of the time of Plato.

Diseases are deviations from the natural and wholesome offices of living creatures: they may arise from errors pervading the whole individual, or parts of the system; but there exist a continuity and consent among all the parts of a living body, so that local derangements are never perfectly independent of the whole.

Diseases may originate from too much or too little of some one of the essential constituents of a living creature, as, for example, from changes in the due and salutary quantity of blood, which fluid element may also be deteriorated by improper diet, or by an infectious matter, such as that of small-pox.

Against these, and many similar assailments, Providence has shielded every creature to an extent consistent with its limited mortality. Organs of sense to discriminate beneficial or hurtful things, are variously distributed and wisely constructed, to secure the respective term of life assigned to each creature. Nature does not inexorably demand the exact fulfilment of her constitutional laws: life is permitted to continue under many deviations from the strict regimen of health, and, in all constitutional or local diseases, some living effort is made to relieve or remove the offending cause.

One of the most remarkable instances of living endurance has been lately shewn by injecting saline infusions, to the amount of 120 ounces at one time, into the human veins, during the state of collapse in the Indian cholera; another is the not uncommon vicious habit of pouring three quarts of wine, or four quarts of porter, through the human blood-vessels within a few hours.

These notorious facts ill accord with the fine-spun

doctrines of respiration, circulation, and sensorial influences—many of them the sproutings of feeble imaginations, unsupported by an enlarged knowledge of physiology, which is never to be obtained but by extensive and laborious researches into the fabrics and composition of every kind of organic structure.

As to the results of torturing living animals, they are as unsatisfactory and revolting as the now happily exploded law for torturing men to obtain truth.

The spirit of nature does not obey the demands of violence; and pain, the appointed harbinger of bodily injury, does not give her messages to the emporium of life in vain.

Under extreme bodily suffering, the brain is distracted, and ceases to direct the moving structures temperately: convulsions follow; the heart and respiratory organs lose their equilibrium; and, however unfeeling the cruel experimenter may be, nature refuses to confess.

Governed by these views, and convinced that it would be improper in this place to offer any remarks upon the historical, obsolete learning of physic, or the discords of modern smatterers, I shall proceed to offer my own experienced observations upon the means of preventing or abating a constitutional disease, commonly thought to be hereditary, and little under the control of medical skill.

Let not the reader be appalled when I pronounce the word, Scrofula!—a term generally supposed to denote an hereditary taint of blood, an inextinguishable family disease. I state truly and advisedly my conviction, that such an opinion is not well founded; and accordingly my present endeavour shall be to present the reader with plain and rational evidence to shew, that scrofula is not necessarily hereditary, and that modern medical science and practical knowledge demonstrate the effectual means for preventing it, and alleviating, if not curing, it under its worst aspects.

Any attempt to designate scrofula by a short technical definition would be unavailing, because that malady appears so variously, and under so many different degrees of activity, that the best informed medical men do not agree as to its local or constitutional boundaries.

For the present it may be enough to state, that scrofula is generally an inflammatory affection; and that it assumes the languid, feeble, and slow progressing character, termed chronic, in contradistinction to inflammations of a more vigorous and rapid kind, denominated acute. The leading feature of scrofula may be justly regarded as a constitutional languor or feebleness, when compared with vigorous, rude, and hardy health.

This over-delicacy of the frame which affords the aptitude to scrofulous disease, may be hereditary, and it may have been augmented, in successive generations, by unsuitable residence, or by improper habits of living; but the children of scrofulous families are born healthy and beautiful, even beyond the average. Such children are not able to bear the cold and damp, unless they are defended by special clothing, and by appropriate domestic accommodations, neither can they be reasonably expected to escape those disorders which depend on localities notoriously productive of that malady. If to these causes be added family habits of diet (not only erroneous, but actually productive of the very crudities which occasion scrofulous inflammation,) we may rationally explain the prevalence of scrofula in certain families without taint of blood.

I can, moreover, adduce overwhelming arguments against hereditary taint of blood, taken from notorious facts, and which do not require any medical subtlety in their application.

It has been long known, and confirmed by repeated dissections, that tropical quadrupeds and birds, confined in the London menageries, are liable to scrofula under its most aggravated forms; and that the same malady often attacks the natives of Africa, Asia, and America, after a temporary

residence in England; abundant proofs of which have occurred in all the London hospitals. Surely these creatures and human beings did not bring hither, and from their natural climates, a lurking vice of blood unknown to their progenitors!

Hereditary impresses of peculiar forms, of stature, of supernumerary parts, and of complexional colours, happen equally among mankind and animals, and even vegetables are subject to similar influences; but these permitted propagations of trivial varieties are not allowed by nature to transmit diseases, an evil which must have directly led to the extermination of the ill-fated race. On the contrary, every deviation in nature from the ordinary standard of the species, is an adaptation to local or temporary conveniences; hence the short stature of men and cattle in sterile, Alpine regions, contrasted with their huge growth in fertile plains; and hence the protecting changes of colour in the furs and feathers of animals and birds in snowy regions, all suited to the summer and winter costume of surrounding nature.

These slight sketches may suffice to shew the extent and complexity of the healing art, when contemplated by philosophical minds, inured by enlarged experience to apply the elements of science to practice.

Scrofula generally appears under an inflammatory

aspect, and it may spring up for the first time in any family, or in confined animals, without any discoverable previous vice of blood.

In some climates and regions of the earth, an indigenous malady, the goître, nearly allied to scrofula, if not identically the same, is permanently located; and similar affections prevail in certain parts of England, where enlarged glands within the throat also occur, producing deafness; but neither of those maladies exhibit active inflammation, nor are they perceptibly dependent on any humour. Certain eruptions around the ears and lips, and sore eyes, are common precursors of swelled glands in the neck, and medical men class them with scrofula. Children thus affected have, however, been generally mismanaged in their diet.

Here, then, we discover two distinct sources of scrofula, one ascribable to climate only, the other to vitiated blood occasioned by improper food; and my experience justifies the assertion, that no family, however naturally sound in their constitutions, can long resist the tendency of those unhealthful causes to produce scrofula.

I am willing to admit the greater liability of some families to become scrofulous, and even of some individuals born of the same parents, who may be miserable victims of that disease, while

their sisters and brothers escape with apparent impunity. Scrofula is also considered to have its cycles of activity and rest; but I think it more just to attribute periodical abatements of the malady to careful attentions, and to suitable regimen, than to a natural subsidence of its causes.

I do not scruple to avow, that I regard many local and even constitutional disorders as scrofulous, although some distinguished professional men class them otherwise; but if I extend the roll numerically, I have an adequate compensation to offer when I come to their preventive treatment.

An experienced medical eye may, doubtless, detect an aptitude or proneness to scrofula, where a less qualified observer would fail; but such professional penetration is not required to discern its grosser appearances.

The peculiarities of bodily frame and of constitution most liable to scrofula are those of a feeble and delicate character. The figure is generally slender, and the growth either stunted or exceeding in tallness the stature of the parents. The chest is narrow, and that is vulgarly and erroneously supposed to confine the lungs, and thereby to occasion consumption—which is a scrofulous malady, dependent on repeated attacks of feeble inflammation, progressively spoiling the natural texture

of the lungs, and, if not prevented, leading to an accumulation of incurably diseased structure.

In such originally delicate and feeble persons, the natural temperature is ill sustained: in cold weather, their hands and feet are peculiarly liable to be benumbed, and they suffer more than others from chilblains; their delusive rosy cheeks and swollen coral lips are changed to a purple or livid hue by every blast of cold; their pearly teeth are brittle, and remarkably apt to decay; their prominent, speaking eyes are truly "windows of the soul," but, alas, they present, to the medical philosopher, sad forebodings of insidious disease and of premature death—forebodings which he dare not intimate to the delighted parents, exulting in the present beauty and future promise of their flattered offspring. Even the admonitory cautions for the preservation of such ill-fated children are seldom acceptable, until some of them fall victims to this deplorable malady.

I shall not be accused of overcharging this picture, by any of those who have undergone the pains and penalties of hopeless suffering, when I assert, as an apology, my experienced assurance that preventive measures, timely, judiciously, and constantly observed, may be relied upon as the sure and only means of averting, of mitigating, and of stopping

every form and modification of scrofula, whether apparently local, or invading the whole constitution.

To the rationale of those preventive resources, I shall presently draw the reader's attention, but must previously endeavour to display the natural causes and the most common anatomical seats of scrofula: this I shall attempt in plain terms, although alike disadvantageous to the reader and to the author.

The blood and blood-vessels are appointed by our animal nature for the constant growth, renewal, and repairs of a frail body, destined for a limited existence, yet conditionally protected by a guardian intellect, apprised of external good or evil by variously ordered organs of sense.

The blood contains the fluid materials, out of which all the different solids and liquids of living animals are made; some by simple processes, others by elaborations not so apparent.

Life and health depend on certain properties of the blood, partly influenced by the chemical agency of respiration, and partly by appropriate refreshing supplies to be derived from food. The due properties, the quantity or volume of the blood, and its mode of flowing, are important to health.

The essential offices of the living automaton are not, however, always rigidly or exactly demanded;

for licences to deviate, quite compatible with existence, are liberally allowed; yet, if errors are either long continued or exceed moderate bounds, they constitute the state termed disease; which may be either restricted to some of the living offices without any manifest cause, as in many nervous diseases; or they may be connected with unnatural changes in the bodily structure, the results of depraved growth, as in certain swellings; or the whole frame may be invaded by a noxious humour, like that of small-pox.

I have already stated that scrofula is not a humoral disease, and that it is not necessarily transmitted from parents to children: it is not infectious; and although it is ordinarily accompanied by marks of slow and subdued inflammation, yet it may progress so insidiously, as not to disturb the sensitive system by any pain, notwithstanding the occurrence of large unnatural growths, such as the goître.

If it should be asked, what can have happened to produce that unnatural enlargement, I reply, that it is a mere dilatation of a congeries of blood-vessels, called the thyroid gland; and that it arises from long continued exposure of the bare throat to a piercing damp and cold atmosphere, which physically impedes the flow of blood through vessels benumbed by low temperature: similar effects

follow chilling exposure of the lips, hands, and feet of feeble and delicate children, who are unjustly condemned to the opprobrium of scrofula.

Those parts of our bodily structure, which have the least number of red blood-vessels, or are the most distant from the heart, are most liable to scrofula, and such fabrics possess the lowest natural temperature; hence they yield the soonest to the debilitating effects of cold, and become preferably liable to scrofulous congestions or obstructions. Throughout animal nature, the circulation of red blood and nervous sensations keep pace with temperature, a general coincidence most remarkable in cold-blooded creatures, such as frogs and fishes, whose powers of motion, like those of our fingers, are benumbed by cold.

From this cause, also, the joints, and the most exposed of the growing bones, become preferably attacked; the nostrils by polypi, and the ducts for the tears by obstruction which produce a special fistulous disease. Another still more ruinous invasion fixes upon the vital organs of breathing. The delicate membranes, which constitute the air-receptacles in the lungs, are slenderly supplied with blood-vessels, for their maintenance and repairs. Two small arteries, coming from a distinct service-trunk, have to traverse a winding course, before

they are spread out upon their ultimate surfaces, the air-cells. These attenuated vessels appear to convey no red blood into the tissues to which they are destined; in fact, that rule is made absolute respecting the size of the arterial vessels of maintenance in every animal structure; for, in all cases, the red blood is turned back again by the veins, wherever the working vessels commence.

Unquestionably the whole of the circulating blood passes through the human lungs, and thus it becomes completely exposed to the respiratory process; but, anatomically speaking, the proper pulmonary arteries and veins are merely tubes continuous into each other, and, without exception, of sufficient diameter to admit the free passage of all the red blood. They are vessels for the passage of the whole mass of blood through the textures of the air-cells, and they do not contribute to the maintenance of the structures which they traverse.

This practically important view leads to a more philosophical and, I believe, a more just, consideration of the cause of pulmonary consumption—a disease which many competent anatomists hold to be closely allied to scrofula, if not the same.

The air-cells of the lungs consist of membranes called muco-serous; but I regard the actual cells as purely serous, while the tubular passages leading

into them, termed the bronchi, are more of the mucous character.

The air-cells of the lungs present a large surface, always exposed to the atmosphere; they and their connecting membrane are, by their special vascular structures, liable to the slow, feeble inflammation peculiar to scrofula; and every cough or cold occasions serous defluxions from those membranes and an increase in degree of these slight feverish attacks, produces effusions of solid lymph; or the long continuance of a cough or cold may insidiously produce the same effects.

In this stage we may discover the first rudiments of pulmonary consumption; and every succeeding attack, or unchecked procedure of the disorder, adds to the diseased deposits, until the breathing is mechanically impeded, and the ill-organized morbid productions become extravascular: finally, the feeble vessels of supply ceasing to pervade the crude, extraneous mass, it begins to decay and to vex the surrounding membranes, which are shortly aroused into active inflammation; ulcerations then ensue, matter and blood are expectorated, and the fate of the sufferer is sealed.*

I do not make these terrific announcements

* That this disease is not confined to delicate persons is evinced by the frequency of consumption in boxers.

without being prepared to offer adequate consolation.

I assert that this frightful disease may be always prevented by undeviating attentions to clothing, to local residence, to domestic accommodation, and to diet; for, however strongly marked the tendency to scrofula may appear, and under whatever conditions it may be at first evinced, its ruinous establishment might have been prevented by timely measures, judiciously directed and incessantly observed.

Our forefathers were taught, by experience, to wear leathern jackets and thick coarse woollens; these were refinements upon the sheep-skins, the deer-skins, and the seal-skins of their early ancestors; and they are still the present dresses of all the arctic races of men.

The flimsy cottons and the superfine clothings of the present day are the seducing vanities of fashions, borrowed from a warm climate, or imposed upon us by greedy capitalists. From early infancy, these gauzy vestments are the only coverings allowed to the offspring of affluence; and, as if the devoted victims should be debarred every chance of escape from colds, and coughs, and scrofula-producing chills, their unadvised parents make a picturesque display of their naked throats, shoulders, arms and legs, in all weathers.

Another powerful source of falsely alleged hereditary scrofula is the continued influence of a family residence in a cold and damp local atmosphere. A baneful air often prevails over elevated lands, where Folly is wont to build a mansion to be gazed at, and to overlook the more humble but more healthy inhabitants of the plains.

Hereditary entails condemn succeeding generations to the pains and penalties of a disease-producing locality, which the vulgar ascribe to some vice of the blood; and in this way many families are extinguished.

From extensive observation, I can safely assert that these unwholesome localities are often confined to narrow limits, and do not extend over whole countries or even parishes.

Thus it happens that scrofula seldom originates in the flats of Brompton; and the atmosphere of that neighbourhood is remarkably favorable to consumptive persons; whereas the north-east summit of Highgate hill, but a few miles distant, produces many examples of severe scrofula; and the air of that place is injurious to consumptive patients.

Local soil appears to be also influential; for I have often witnessed the bad effects of a residence upon elevated, clayey lands, especially if the blue lichen, commonly called a moss (a creature of

moisture,) grows abundantly on the orchard-trees and wooden palings.

Before Portland place was screened from the north-east winds by the Crescent and other new buildings, its local air was so hurtful to many affluent families, that they were obliged to change their residence; and, although the street is spacious and fenced by high houses, it was originally remarkable for the long continuance of snow.

The choice of a healthy locality for the permanent country residence of succeeding generations of affluent families is generally neglected; whilst the prospect from the costly building, and its imposing effect upon distant gazers, are laboriously studied. To this cause may be attributed many of the present forsaken halls, where a worn-out succession has been exhausted, or the remnants reduced to a feeble resemblance of their hardy ancestors: still the inheritors cling to these baneful sepulchres.

The summit of a high hill may afford a fine landscape, while its local atmosphere produces a continued tendency to scrofula. The flat, rich meadow may produce water-cress under the windows, and the dank fungus-rot devour every board of timber which touches the ground-floor; but the deluded possessor comforts himself with good cheer and hot fires, telling of the advanced ages of his

grandsires, although he has just crossed his own brood with a feeble swamp-bred lady.

It is one of our strongest propensities (perhaps innate or instinctive) to yearn after perpetuating ourselves; but no expense is bestowed upon selecting an appropriate locality for an entailed residence; neither are the most competent medical advisers consulted about alliances by marriage, although madness or scrofula may belong to one of the families.

These and other similar scientific preventives may, in future ages, become additions to the pecuniary insurances on lives, or, rather, to the practical means for prolonging the special races of men.

As to domestic accommodation, my experience does not coincide with those who recommend close, heated rooms: I am of opinion that such confinement produces more evil, eventually, than the value of a delusive, temporary benefit. For, by whatever means the artificial temperature of a sick room is maintained, there must be a want of fresh air. And the same objection prevails against large rooms, because of their difficult ventilation. If, therefore, the consumptive individual cannot have the advantage of a constant temperate air, the next best resource is defensive clothing; and, above all other cold and damp-proof coverings, I prefer the wash-

leather waistcoat, to be worn over the personal calico or linen. Thus protected, the invalid may inhale fresh air during the sunshine of every winter day: since it is not the direct effects of cold and damp inhaled by the lungs that vexes their delicate state so much as the revulsion arising from chills and checked exhalations from the whole surface of the body; and although salutary exercises may be taken within doors, the effects are never so exhilarating as exercises in the open air.

The notorious reciprocity between the outward and the inward surfaces of our bodies does not require anatomical demonstrations, since the daily occurrence of inflammations of the lungs or bowels are often unequivocally imputable to exposure to rain, to wet feet, to damp beds, and to chilling blasts; and the efficacy of blisters in diverting inflammatory disorders from their inward seats to the skin, is undeniable: hence, in the milder attacks of common colds affecting the lungs, the maintenance of a perspirable warmth is essential.

All the glands of the absorbent system are liable to scrofula; but those organs are not the primary seats of that malady—they become disordered by acrimonious matters, which inflame their blood-vessels; and a humour such as that of cancer or other animal poison, produces similar effects.

The anatomical fabric of absorbent glands consists of tubes, which divide into minute branches, leading into a chain of small vesicles; these open again into tubular vessels of egress, and the whole are embedded in a pulp, carrying blood-vessels.

The entire mechanism of lymphatic glands seems appointed to stop the entrance of noxious materials into the living circulation, and these glands serve as locks or barriers to the absorbing tubes.

They are wisely-ordered defences, chiefly placed on the outside of the great vital cavities, and before the absorbents arrive at the blood-vessels. At the junction of the thigh with the body, they guard that entrance, and perform the same office at the arm-pits; so that by being first inflamed, they block up the passages, and afterwards, by forming matter and an open wound, discharge the offending humour or poison.

The same process of an obstructing inflammation of the glands, belonging to the nutrient absorbents of the bowels, arrests the progress of crude and hurtful alimentary fluids: and thus our very diseases, as lesser evils, become sources of protection to life. In this instance, if we only attend to the wisdom and ways of nature, we may discover the essential importance of diet to delicate children, and instead of rashly employing calomel, and other poisonous

drugs, upon an irrational, and, as I believe, a false hypothesis, we may, by judicious and soothing diet, allay the disturbed state of those glands, and allow them to recover their proper offices.

These are the means which extensive experience and modern scientific researches have presented for the relief of scrofula; and, however slightly preventive regimen may be regarded, I can truly assert, that the measures which it enjoins are more efficacious for the alleviation or cure of scrofula, when actually established, than any drugs. I do not reject drugs as useless, when prudently and rationally directed, but I totally deny their claims as antidotes to scrofula.

I have often witnessed recoveries from some of the most direful ravages of scrofulous ulcerations penetrating the spine, the joints of the knees, ankles, elbows, and wrists, under all the disadvantages of London air, and confinement to the same room for more than two years, by the simple, and, I trust, rational adaptations of warmth, clothing, and diet, with very little medicine. I am fully aware of the auxiliary benefit arising from sea air, in suitable stages of scrofula, but it is not always proper; and when a removal from continued parental care is to be the sacrifice, the sufferer, under less assiduous attentions and regulations, is seldom benefited.

The anatomical evidences of scrofulous disorganization are, however, generally manifested during life; and ordinarily terminates by a sort of destructive dissolution into fluid matter. If this happens to superficial and unimportant parts, the ruined structures are discharged; but if the dissolution and expulsion happen to the lungs or other vital parts, the result is commonly fatal.

In conclusion, I confidently assert that the tendency or aptitude to scrofula may be eradicated by marriages into hardier families, if they adopt a continued preventive regimen; and I am fully warranted in saying, professionally, that the most ruinous derangements of bodily structure from scrofula, if not destructive of vital parts, are more obedient to medical and surgical skill than any other species of disorganization.

ON THE
PRESERVATION OF THE HEALTH
OF CHILDREN.

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THE scanty inhabitants of the frozen, polar regions are deprived of those vegetable productions which constitute a large portion of human food in warm climates; but they are healthy, and rear their children free from deformities and from the common diseases of our citizens.

Indeed, I believe that children could not be reared in Greenland if they were to be fed upon grain. In one of those late extravagant voyages to discover a north-west passage, the most northern race of mankind were found to be unacquainted with the taste of sweets, and their infants made wry faces and sputtered out sugar with disgust; but the little urchins grinned with ecstasy at the sight of a bit of whale's blubber.

The clothing of all these arctic people consists of

skins; and these coverings so effectually retain their natural heat and prevent the access of cold air, that they do not depend on fire; indeed, to some high northern tribes the uses of fire are unknown.

The practical inferences to be drawn from enlarged surveys of human life, are much more valuable than those to be obtained from a narrowed scale of observations. The former convey the general laws of nature; the latter exhibit a few plausible manifestations, to which our daily experience presents as many exceptions. The former are wise, safe, and philosophical inductions; the latter suit the indolent and the impostor; and, when so introduced into the healing art, they degrade the profession, delude and defraud the public, and spoil the confidence which is due to science.

All the bills of mortality, the statements respecting population, and the insurances of lives, demonstrate the excessive number of deaths among infants and children in large towns. Indeed, I consider that the destroying effects of this increasing accumulation of confined human beings, overtake their premature, unprovident, or vicious dispositions to multiply; and when the dispersion of villagers and solitary cottagers, occasioned by the modern system of large farms and by greedy enclosures of waste lands, are truly estimated, I

cannot bring myself to admit the heart-hardening assumption of a demoralizing, excessive population.

It is not difficult for a man of laborious research to collect, from records of different degrees of veracity, an overwhelming number of apparent facts on one side of a question; perhaps well adapted to stifle the compunctions of greedy selfishness, and to make worldly friends among the most powerful. This task being executed for a sordid purpose, who will undertake to wade through twice as much evidence for the mere love of truth or for humanity's sake, in order to detect errors and to discover omissions, after the public have blindly adopted the first assertions, and their apparently convincing inductions?

I have felt it, in some degree, needful to introduce the preceding opinions, as an apology for my wish and endeavour, to shew the means of promoting the health and preserving the lives of children born in cities; and if this endeavour should prove instrumental in abating the severest of natural afflictions, viz., the agonies of parents for the sufferings of their children, I shall be amply rewarded.

As a further justification, and in opposition to those cold-blooded political doctrines which I have ventured to reprobate, I will add my passing sen-

timents in favour of the natural and social benefits which accompany the high moral obligations so deeply impressed upon parents of both sexes. I need only allude to the anti-selfish yearnings of fathers and mothers after their children when condemned to ignominy, or when suffering under worldly misfortune. Those persons in the highest stations, or in the most debased, who have lost these celestial emanations, must be incurably vicious, and totally unworthy of the advantages of the social compact.

To those who are already parents, or who may become so, I will now offer a few words of medical admonition.

The maintenance of health by temperance, domestic and personal cleanliness, and by moderate exercises, is essential to mothers in every stage of their interesting condition; and I am convinced that nearly all the sufferings and misfortunes which too often befall mothers, may be justly imputed to improper habits, or to improper interference with the wisely-provided ordinations of nature.

I am fully satisfied, from long-continued, extensive, and careful observation, and from the free exercise of an independent judgment, that the great mortality among children is imputable to their improper diet, and to the violent drugs given for their supposed relief.

It is as impossible to rear a healthy child upon the ordinary diet of its parents, as it would be to fatten a calf upon hay and grass; and yet these manifest lessons are wasted upon medical men, who direct stale crusts or oatmeal gruel as the food of infants; substances so difficult of digestion, and so liable to turn acid in the stomach, that few moderately strong grown-up persons can eat them without being disordered.

If, as I believe, the most valuable and the most worthy office of a medical man be that of preventing diseases, it may be reasonably allowed to be supremely so regarding infants; for, by negligently allowing the healthful foundations of the infant human structure to be sapped, the physician imposes incalculable future sickness and misery upon the mismanaged individual.

One striking example may suffice to explain my meaning. The first formation and growth of the infant teeth is often a season of trouble; and why? Doubtless, because the constitution of the child is too weak to effect the elaborate processes of tooth-making, and of bringing them through the gums. And what has induced this early infirmity? Has the child been wholly nourished according to nature, or has it been absurdly fed with grits, tops and bottoms, sweet-cakes, and perhaps even fruits? Has it

not been often ill, perhaps convulsed? and has the evil diet which caused its disorders been forbidden? No; but it has had the best advice; it has been amply dosed with calomel, until a mercurial disease supersedes that produced by indigestible diet. If good fortune, or an extraordinary degree of natural vigour, should carry the victim onward—what is the next vexation? Its teeth are formed under a daily conflict between sour crudities in the stomach and the no less ruinous drug, calomel; and, when they first show themselves, they are but half covered by their required coating, termed the enamel. Under this malformation, this first specimen of the skeleton is doomed to perish before its natural term; then follows toothache, earache, and swelled glands; and, perhaps, the next and final set of teeth are created under no better auspices.

In the times of falconry, it was well known that improper food, irregular terms of feeding, or insufficient supplies of food, during the season of moulting, were ruinous to the sporting hawk; they occasioned irregularities in the development of the quill-feathers, the stems of which became crooked and knotted, so as to spoil the fitness of the folding and expansive wings for rapid flight; and for this the mewed falcons were punished.

I have seen a similar derangement follow the loss of the human nail, when its renovation was effected during a disordered state of the stomach: indeed, all the derangements and diseases of the exuvial structures of our bodies, such as the hair, the nails, the scarf skin, and the enamel of the teeth, may be justly assigned to crudities or vitiated additions of the vital fluid element, called blood, which is daily supplied with good or bad raw materials derived from food.

Without the obtrusion of anatomical pedantry, common sense evinces the inevitable connexion between wholesome food and a healthy body, and this dependence is often very remarkable during childhood, although that stage of life is naturally the least liable to bodily errors, for the blood-vessels are then busily engaged in making hourly additions to the growing frame: an occupation which supersedes the ordinary deviations of the natural offices of the living body, so liable to happen after maturity, or when the operations of life are merely subservient to supply the daily wants and waste.

The same diet, the same fashion of dress, and the same local atmosphere, are usually continued through several generations; and in this way, all hereditary aptitudes for disease are propagated, and

often aggravated. Even in cases of the gout, young master heir-apparent is called in after dinner to take half a glass of wine to strengthen him, and before he quits college he may have attained to the high perfection of withstanding two bottles. Thus, if he staggers on as far as middle age, he is then said to inherit the gout.

If, by judicious management, the perilous voyage of youth be passed without damage to the main structures of the living fabric, and the vessel be fairly on her way through the ocean of life, there still arise many dangers from tempests, which the inexperienced navigator neither believes nor fears. In vain for him have the lessons against intemperance been preached by those few who have benefited, while the many go to untimely graves through indulgences which would disgrace a brute, and against which neither pains nor penalties had availed.

I need not remind the reader how many of our early companions have perished in the vigour of youth—how many have died suddenly and unexpectedly. The general cause has been intemperance in diet; for to that alone may be imputed all rapidly destructive diseases, such as apoplexy, palsy, and every kind of inflammatory affection.

A well-constructed bodily frame is so abundantly

secured against ordinary casualties, that it is not liable to mortal maladies, unless it be first corrupted by a course of injurious living.

Men are not naturally amenable to apoplexies, to erysipelas, to carbuncles, or to inflammations of the vital organs. The even stream of life flows on safely, and for the common weal, as long as it is received pure from its source: empoison the spring, and every breeze that blows brings pestilence.

I the more earnestly desire to impress these cautions, because they are not sufficiently proclaimed by medical men.

A sort of anatomical rage has been lately spread among the public, originating from the worldly success of a few crafty persons, who thought it politic to appeal to general readers; but I feel it to be my duty to remonstrate against this delusion.

I have, from my long-continued studies, some claim to offer an opinion upon this topic; and, accordingly, I assert that far too much credit is attached to anatomical evidences in the detection or cure of inward diseases. Diseased alterations of structure are the products, not the causes, of diseases; and when they affect vital parts, the malady is beyond the reach of medicine: it may be palliated, and thus a shattered life may be procrastinated, but the death-warrant is issued as

soon as the disorganization of a vital structure is established.

I do not wish to terrify the reader by enumerating fatal and incurable diseases: they are few in number, and seldom befall the temperate, and even the supposed worst of them are not always so evident as to prevent mistakes. Hence it happens, that consumptions and cancers are asserted to be cured by those daring adventurers who denounce every case to be of the worst kind, and incurable by all others save themselves.

During childhood, youth, and manhood, a few cautionary hints may be useful, especially as they are not sufficiently known.

The preservation of the teeth from decay depends almost entirely on keeping them clean, by brushing and picking them, night and morning; and this should be commenced with the development of the second set. The ears should be also often cleansed by syringing with warm water, to remove offending matters, which often occasion the ear-ache, and eventually deafness. Delicate children should also have their outward ears covered, both by night and by day, and their necks warmly clothed, to prevent sore throats, or those diseases which arise from exposure to cold air, and which often produce deafness.

The preservation of the feet and the toes from fashionable deformities is of no small value to those who walk; and this is by far the best sort of exercise. Broad soles and soft upper leather are the essential requisites in shoes for those who desire to escape the crippling effects of bunions and corns.

I offer no apology for these apparently trifling remarks; they must be felt to be necessary by all considerate persons, and, perhaps, many of my readers have not been before warned on these subjects.

One important question still remains, the disposal of discordant opinions about the habitual taking of fermented liquors. I confess myself to be against their constant usage; but they are most to be tolerated in advanced age, and perhaps then only as lesser evils destined to combat with growing infirmities.

The economy of life—or, in other words, the art of preserving health and of prolonging our days, should be begun at the foundation; it should be adopted in infancy, conducted under rules of judicious temperance through the middle stage, and exactly maintained during the autumn and winter of life. Even the preservation of the eyesight, that most sublime source of all our information and

of refined enjoyments, depends mainly on temperance and upon the purity of the alimentary passages. I am prohibited by delicacy from the mention of other disorders, and their medicinal remedies: suffice it to insist that the preservation of health, and the prevention of many diseases, may be effected by watchful purifications through simple drugs.

The question may be again asked, whether we are all to live according to these unsocial, uncompromising rules: I answer, it may not be essential for the strong and the active, who enjoy temperate exercise in the open air; Nature has given them a licence, subject, however, to penalties. Occasional vicissitudes within the bounds of moderation, like the varied products of the seasons to wild animals, may tilt the vibrating beam of life favorably, and in opposition to some slow and imperceptible inclination to sickness: but I warn adventurers against frequent excesses; for I have known hundreds of instances of fatal diseases occasioned by the last jollification.

Active exercises are natural to children, and accord with their vivacity and impatience of rest; but the same kind or degree of bodily exertion is not suited to grown-up persons, and is still more objectionable to the aged. It should be known that great attention of the mind exhausts that influence

of the brain which excites muscular motion; and experience shews the impossibility of upholding the two kinds of exertion together; hence the necessity for bodily ease to those who are engaged in severe or profound labours of the mind.

In advanced age, bodily repose is essential to those sagacious and experienced depositories of knowledge, whose last records so often form the steps in the next age toward further discoveries and improvements.

If, however, a smattering of forced schooling, and a crude publication of useless literature, should create contempt for the more substantial lessons of scholars and wise men, the effects must prove injurious to every refined art, and to every science.

In all ages and stages of life, walking exercise is the most salutary, and happily it is free.

Our climate affords more days in every year for the convenience of that exercise than any other in the world; and our metropolis abounds in accommodations and aids for every condition of society.

The eyes appear to be especially liable to damage or deterioration from intemperance; and I believe that no better rules can be suggested for the preservation of sight, than wholesome diet, and abstaining from strong liquors.

Deafness commonly arises either from obstructions

of the air-passages in the throat leading to the ears (and these are generally provoked by exposing the neck and outward ears to cold and damp,) or from ear-wax, which should be washed out of the tubes with warm water, whenever it offends. This act of cleanliness is needful from the state of infancy to old age.

But many of the disorders of the eyes and of the ears are constitutional maladies, demanding medical treatment.

On prudent management from early life, the inestimable benefits of sight, hearing, the preservation of the teeth, and the continued use of the feet mainly depend.

DISORDERS OF OLD AGE.

ON THE
DISORDERS OF OLD AGE.

WHEN the age of maturity has passed, and the lungs have escaped a derangement of structure most incident to youth, the common dangers to life are to be discovered in disorders of the head, the stomach, the bowels, the blood-vessels, and the liver; and they display themselves by apoplexy, palsy, indigestion, obstructions, inflammations, jaundice, or dropsy. Many of these diseases are, happily, within the reach of medical skill, if attended to in time; but they are severally much more easily avoided, by prudent regimen and preventive methods.

Few persons are attacked by dangerous disorders without due notice and repeated warnings. I have never known an instance of apoplexy or palsy, until after many previous intimations, such as headach, and a furred tongue; nor any serious affections of

the stomach, bowels, or liver, without the precedence of some morbid visitation, such as costiveness, headach, flatulency, acidity, or local pain. It is more than probable that inflammatory diseases occur only in vitiated habits; and, when they seem to arise spontaneously, or appear to be occasioned by inadequate causes, they are, in truth, but roused into activity, and owe their remote origin to a previous ill-conditioned state.

I cannot adopt the irrational opinion of those who attribute all human maladies to a single source, or who pretend to remove all distempers by one remedy. The annals of medicine have been too often disgraced by these and similar absurdities, although common sense, logic, and science, have alike, and at all times, discarded them.

Every experienced medical man must have felt the harassing difficulty of discovering the real nature and the causes of diseases; and he must have equally felt the deep responsibility of directing safe and efficacious treatment; nor does extended practice sweep away those intricacies.

It behoves every man who takes upon himself the charge of preserving human life, when endangered by the approach of fatal disorder, to search well for evidence, to ponder before he concludes, and to examine his stores of practical knowledge

before he determines to employ powerful, perhaps desperate, methods.

This careful and cautious enquiry characterizes a good practitioner; for upon a quick, clear, and, as it were, an intuitive discrimination between frivolous and leading facts, a sound judgment can alone be formed—that solemn and deliberate judgment which ought to govern the conduct of every medical man, and on which the momentous question of life or death so often depends.

The age of sixty may, in general, be fixed upon as the commencement of senility. About that period it commonly happens, that some signs of bodily infirmity begin to appear, and the skilful medical observer may then be frequently able to detect the first serious aberrations from health.

Long-continued professional experience has taught me to seek for such incipient disorders in the evidences of the state of the stomach and its dependencies, and from the condition of the blood and its vessels. Over-fulness of the vessels, contamination of the blood, impaired digestion, and consequent crudities mingling with the elementary materials of the blood, are to be reckoned the leading causes of many diseases; and a scrupulous attention to these points will often discover the beginning of bad health.

A dislike to bloodletting, founded on erroneous opinions, is very prevalent in old persons, and even many physicians sanction the prejudice.

I do not aver that plethora is an invariable condition of old age; but, whenever it does occur, it constitutes a dangerous feature.

The state of the pulse, and other signs of an excessive volume of blood, would often mark out the expediency of bleeding, if a prejudice about its weakening effects did not obtrude; but I am convinced that the feebleness of age, when produced by sanguineous oppression, can only be removed by diminishing the quantity of blood, and that, on the promptitude of such measure, the safety of the patient will often depend.

The fibres in old persons are relaxed, and the flexible solids, together with the blood-vessels, are more yielding than they are at a more vigorous period. From the same cause, that muscular engine, the heart, labours under a diminished power, while it is obliged to drive on the circulation under the disadvantages of weakened and distended vessels.

The separating of fluids from the blood, called the secretions and excretions, is also lessened and deteriorated, so that the ordinary methods of its purification, and of balancing its quantity, become

impaired: hence, in extreme old age, the blood is liable to be disproportioned, or to be vitiated in its composition.

The heart and the blood-vessels are subject, however, to disturbances, independently of any improper quantity of blood, or any discoverable change in its qualities. Of this kind are some disorders of the stomach, which occasion sudden and violent rushings of blood into the head, and which seem to be the immediate consequence of deleterious food. The same cause frequently disturbs the regular actions of the heart, and leads to a false inference of its being diseased. This example being one from a long list of similar maladies, shews how inadequate the mere mechanical explanations of anatomy are in the practical service of medicine.

Diseases, constituted by alterations of organic structure, are seldom within the reach of physic, unless they invade parts of little consequence to life, when the administrations of surgery may prove useful. Too much attention has been empirically attracted towards anatomy, which is only one of the rudiments of medicine, and common to all well-educated practitioners. But the incurable ravages of disorganized parts afford few indications as to remedies, while they expose the most hopeless and lamentable obstacles to our art.

As to the alleged peculiarities and deviations from the ordinary course of the human constitution, which have been called idiosyncrasies, I profess myself doubtful; and I apprehend that a deeper scrutiny will assign those apparent incongruities to the variable degrees of power in the living organs. Fortunately for the value of medical precedents, and for the utility of our experience, those alleged discrepancies are very rare, otherwise the records and testimony of our faculty would be of little value. It must, however, be confessed, that the usefulness of written knowledge is mostly confined to those who are prepared by experience to discern its correctness, and to measure its applications. Verbal representations are necessarily very general; and the things treated of by language alone, must be the most intelligible to those who are already practically acquainted with them.

Of all the preventive and curative remedies whose effects I have carefully witnessed, the most beneficial are cathartics and bloodletting; but those powerful means are only efficacious when skilfully directed.

It is a gross and dangerous presumption for unprofessional persons to prescribe for the sick, because few disorders wholly depend on single errors of the body; and when the cooperation of

several means are called for, such as both cathartics and bleeding, their salutary effects may turn upon the precedency of the one to the other, on the selection or doses of the drugs, or on the quantity and mode of bleeding.

In addition to those exertions of an experienced judgment, it is the indispensable duty of a medical practitioner to order the diet, and to adapt the special articles of food and drink to every vicissitude of health.

When it is considered that many serious disorders are entirely occasioned by improper diet, and that, in almost every disease, the direction of diet is, perhaps, of equal importance with the prescription of medicines, it is blameable to neglect this potent resource, and to rely on the unaided administration from the apothecaries' stores of a few grains of materials, whose qualities are not well understood.

Numbers of learned and honorable men are engaged in the medical profession, and the rank which they deservedly hold in society places them above the suspicion of any unworthy love of mystery. Those long-continued technical obscurities, which at one time constituted the very form and body of the profession, seem to be now yielding to the fairer pretensions of science and intelligible observation.

When the concealments of the medical art are laid aside, and the candid avowal of plain sense and of natural knowledge is substituted for occult proceedings, the faculty will be more faithfully respected, and the customary fees as freely given for advice about regimen, as ever they have been for an elaborate mystical prescription.

The propagation of what is termed general knowledge threatens a speedy invasion of those privileged establishments which uphold medical mystery; and a prevailing suspicion attributes to all such concealments the disgrace of mercenary motives, or the equally base design of covering presumptuous ignorance.

In making this exposition, I entertain a genuine desire that my professional brethren and scholars, in general, should see distinctly that its sole object is to advance the claims of well qualified practitioners to the respect and confidence of a class of persons who ought ever to influence the opinions and actions of the mass of society.

Many valuable works, exhibiting the present state of medical knowledge, have been lately published; but as none of them correspond exactly with the results of my experience, I feel it a becoming duty to present my own doctrines in this public manner.

The particular restrictions on diet, which I have found to be so useful to the aged, are equally applicable to delicate and sickly persons, to young children, and to breeding and nursing women; and the publication of these observations may possibly awaken medical practitioners to the important subject of general regimen. The difficulties, uncertainties, and perils of our art, are sufficiently known, to justify every fair attempt to improve the knowledge of the causes of bad health, and to expand our means for alleviating or curing disorders.

This brief contribution of general suggestions, respecting the medical treatment of old persons, is but a specimen and small fragment of my professional collections; it is, however, sanctioned by experience, and composed, under some peculiar advantages, at a mature age.

The most numerous tribe of disorders, incident to advanced life, spring from the failure or errors of the stomach and its dependencies (as already observed); and perhaps the first source of all the infirmities of senility may be traced to effects arising from imperfectly digested food, nor does it seem probable that any effectual means will ever be discovered to counteract this progressive and inevitable failure of our nature.

It is obvious that, as the organs for digestion lose their vigour, the food should be adapted to the degree of decline which invades the stomach and its subordinate parts; and the state of the bile, and the discharges from the bowels, should be then attentively watched, and duly regulated by diet and medicines.

It is logically evident, that if the same kind of nutritious materials were constantly produced in the human frame for its repairs and uses, the same compounds and textures would continue unaltered by time, and the vigour of youth and health would be steadily maintained. It is, therefore, clearly obvious, that every defect in the composition of our bodily materials must alter the condition of the whole frame.

From the steady causes which govern the accretion of figured minerals, they increase in bulk with perfect regularity, and are exempt from the limitations of age or growth; but the organized structures of living animals and vegetables are differently constituted.

The organic materials for the residence of life, being formed of unstable substances, are continually decaying and giving place to new supplies derived from assimilated fluids, which are elabo-

rated by the digestive and other vital offices. Under this system of borrowing and expenditure, a certain degree of continuous renovation attends the maintenance of animal and vegetable bodies, which is wisely adapted to their liability to accidents and to the ordinations of a limited existence.

In every stage of human life, the functions of the stomach are of principal importance to health; and the same rules for diet, which prove beneficial to the aged, will generally apply to all invalids, unless where the exceptions, hereafter to be mentioned, forbid an exact regimen.

Whatever objections may be urged against young persons living by rule, they certainly do not apply to old age; neither do I admit of much latitude for peculiarities of constitution, especially if they tend to license habits which are known to be injurious.

The substances selected for the diet of old persons, and the cookery of their food, should be adapted to the state of their teeth; and solid viands, or those kinds which are difficult of solution, should be minced, bruised, or otherwise prepared, to meet the defects of the chewing instruments.

In addition to the gradual failure of the teeth, the stomach itself suffers a diminution of its powers

to convert food into the raw fluid material for bodily replenishment; and hence it becomes needful to be more choice and particular about the diet in advanced years.

In old age the bowels are also liable to an increasing distention and torpor, which demand that a preference should be given to meats not remarkably putrescible.

On a general view of the most suitable diet for the aged and the feeble, it may confidently be asserted, that animal substances are more easily changed into nutritious fluids by digestion than vegetables; and it is reasonable to infer, that the digested substance of animals is more readily converted into the medium of replenishment than that of vegetables; still, however, there are many exceptions to this rule, since the soluble mucilages, farina, and pulps of some vegetables, are known to be more digestible than the tough and hard parts of animals, which are difficult both of solution and digestion.

The food of all animals in their first stage of life is composed of animal matter. The calf and the lamb are equally fed upon milk, as mentioned in the preceding part of this work.

The several parts of meat, as the skin, tendon, muscle, and fatty membranes, differ from each

other; and they are severally capable of being made more or less digestible by the culinary art: the statement of special examples will, however, best illustrate this subject.

It is a vulgar error to esteem white meats, on account of their apparent delicacy, as the fittest for feeble persons. Generally, it may be esteemed a safe rule, that veal and lamb are less digestible, and afford less nourishment, than the redder-fleshed animals.

The intrinsic goodness of meats is always to be suspected, when they require spicy seasonings to make up for their natural want of sapidity.

In the course of practice, I have constantly found veal to disagree with weak stomachs: the sugar of milk which it contains, disposes it to fall into the acetous fermentation; and, besides, it possesses an excess of tough fibre, (destined to complete the bulk of the mature animal,) which is also a substance of difficult solution. The pot-herbs and other seasoning employed for savoury stuffing add to its unsuitableness.

Lamb is, in a less degree, unwholesome from the same cause.

Pork is also an unfit meat for the feeble, the excess of its fat rendering it liable to ferment; the physical properties of fat are also different from

those of fluid nutriment, of which milk and blood may be considered the standards of comparison.

Salted meats, as ham, tongue, bacon, and salted beef and pork, are to be forbidden, because the preserving material hardens the animal fibres, alters the juices of the meats, and impregnates them with an excess of salt, beyond what is convenient for the operations of the stomach.

The particular parts of meat which are improper for the aged, are gristle, tendon, and hard fat.

Unless the processes of cookery render the parts of meat quite soft and soluble, they often make them more difficult of digestion. Thus overdone meats, and outside portions, as the crusty and torrifed surfaces, are less proper than the more juicy and underdone flesh.

I am also of opinion, that boiled meats are, for the most part, less digestible, and contain less nutriment than the same meats when roasted or broiled.

The frequent eating of fish may be considered as ineligible for the aged, because of its aptitude to putrefaction, and because of the deleterious products of that fermentation, when it happens in the bowels or stomach. The relative degrees of their unwholesomeness may be, perhaps, fairly estimated in the following order:—the most pernicious are

shell-fish, since they are often notoriously the cause of surfeits, erysipelas, &c., more especially when tainted; and herrings, mackarel, salmon, and eels, seem to be next in unwholesomeness, because of the quantity of oil which they contain. The best sorts of fish are whiting, perch, flounders, smelts, skate, haddock, turbot, and soles. It may be remarked, that boiled fish more frequently proves agreeable to the stomach than fried. The same objections may be adduced against salted fish, as were before alleged against salted meats.

An excessive and cheap supply of fish to the inhabitants of large cities, is of very questionable policy; but, in times of putrescent contagion, it seems especially dangerous.

Milk is the food destined by nature for the infant period; but it seldom proves agreeable to old persons: the sparing use of cheese and butter should also rather be permitted than recommended.

Of the vegetable kind, those which are uncooked, such as cucumbers, onions, celery, radishes, salads, water-cresses, and likewise pickles, will be found injurious. Even the hard-pulped fruits, such as apples, nectarines, peaches, some kinds of pears, plums, and cherries, are apt to pass through the body partially digested, and to ferment in their progress, producing a train of evil consequences.

Great choice and nicety are required in adapting the kinds and quantities of fruits to the healthful diet of the aged. The sweet, refreshing juices of strawberries, raspberries, grapes, oranges, currants, and fresh figs, may be occasionally salutary; but either excess, want of selection, or the frequent and indiscriminate indulgence in them, is noxious. Dried fruits, such as raisins, figs, prunes, &c., are more indigestible than when fresh; and, I believe, it is incorrect to ascribe to them generally laxative properties. The nut and almond tribe should be excluded from the tables of the delicate and aged; and, perhaps, the whole catalogue of dessert-refreshments, and sugared confectionery, should be forbidden, with the exception of the fruits already enumerated.

Persons with delicate stomachs will find it useful to adopt rules for the harmonious assortment of their diet, both as it respects any particular and the next succeeding meals. The most simple, bland, and easily-digested food, may be spoiled by mingling with it substances of difficult digestion. Experience has, indeed, taught most persons the unwholesomeness of such ungenial mixtures; and modern customs have banished the medleys of our ancestors from the present tables. Still, however, many hurtful compositions continue to be used in

made-dishes; and the number of articles presented at the festive board are seldom adjusted by considerations of health. The testimonies of the stomach have prevailed against the inclinations of the palate, in several instances; and some discordant associations are thus prevented, as the mixture of venison and ham, and of game, with salad or pickles; although robust stomachs feel no repugnance to associate veal with ham, lamb with salad, and liver with bacon. Temperance in the quantity, the selection, and the variety of food, is therefore not the only consideration respecting diet, but the harmonious selection of articles most nearly allied in their natural properties; by which means the processes of digestion and nutrition may be more conveniently and effectually promoted; and, although an occasional deviation may pass without giving offence, the repetition generally produces mischief.

When fermented liquors are good for the feeble, those which are well fermented, and which have little sugar or free acid, should be preferred. The Rhenish and French wines are objectionable, as well as luscious sweet wines, and more especially malt liquors, because they either contain a free acid or readily pass into the acid state in the stomach. Long-continued and watchful observation induce me to conclude, that the acid qualities of fermented

liquors are no less injurious than the spirit which they contain. The acid properties appear, however, to be less hurtful to youth than the spirituous; while the reverse obtains with aged persons.

A habit of drinking any diluent liquors very freely, appears to be also pernicious; such fluids not only relax the stomach and dilute its digesting liquor, but also present the best medium for fermentations of the most unwholesome kind.

Every medical man ought to possess more accurate knowledge of the disorders which have occurred in his own person than of those which belong to others; and I am satisfied, from that source of experience, that acids, not only act upon the stomach and its contents, but that they likewise pervade the whole body. I have often witnessed eruptions of serous pimples on the skin within two hours after eating crude fruits, and have repeatedly known a gouty pain and swelling in the large joint of the great toe to arise while drinking half a pint of claret.

If the gout should be proved to be a humoral disease, occasioned by alimentary acids, then the diet and the corrective remedies are obvious, and experience seems to support this notion. That the gout is not a disease wholly attributable to fermented liquors is certain, because many water

drinkers, and eaters of vegetables alone, are subject to its attacks; but perhaps the true source of gout, in such temperate persons, may be found in the crude and fermentable articles of their diet. It is both an act of justice to the public and myself to add, that my practice, whenever I have had to treat gouty persons, has been governed by the preceding views, and attended invariably with beneficial results. In cider counties, and where the labouring class drink much acid beer, the rheumatism is a prevalent disease; and it has been aptly called "the Gout of the Poor."

The dark red-fleshed meats are the fittest articles of diet for feeble and invalid stomachs; such as venison, game, mutton, and beef, which should be chosen of the tenderest kinds, and judiciously cooked.

The duck and goose tribe have wholesome flesh; but the fatness of their skins, and the usual mode of seasoning, render them objectionable.

The good old custom of dining in the middle of the day will be found conducive to health and sleep; it is best adapted to the decline of animal vigour, because it affords a timely replenishment before the evening waning of the vital powers, which naturally precedes the hour of rest. An early dinner is not only the best time for the principal refresh-

ment, but the custom tends to prevent intemperance; while late hours, and a consequent state of exhaustion demand, and seem to justify, an excessive indulgence in strong drinks, and in variety of food.

Bland and simple soups, made of game, beef, mutton, or giblets, are often suitable; but veal and indissoluble vegetables should be excluded.

Some preparations with milk and arrow-root, flour, bread, biscuit, macaroni, or ground rice, may afford an eligible diversity; but the custom of eating much fermented bread or potatoes, or of breakfasting on spongy rolls, muffins, &c., is improper, as they are less digestible than softened biscuit, and contain an excess of yeast sufficient to promote fermentation.

That elegant, fragrant, and refreshing beverage, tea, the hourly refection of the largest and, perhaps, most civilized nation in the world, need not be denied to the aged. It is well suited to cleanse and wash the stomach in the morning, preparatory to the substantial meal; and, when taken in moderation, it is a delicious diluent immediately after that repast.

If the dinner be eaten at mid-day, the equivocal entertainment, called luncheon, is superfluous.

Water for drinking is so essential, that it may

be a question whether any residence can be healthful without it. Toast-water is best made with hard biscuit, reduced by fire to a coffee colour: this drink, when free from yeast, is a most agreeable beverage.

Long-established use may render coffee inoffensive; but it is more apt to become sour than either tea or weak chocolate, and it seems to be more heating.

The vegetable additions to dinner ought to be of the softer or farinaceous kinds, such as green peas, asparagus, cauliflower, French beans, mealy potatoes, and rice, dressed or simple macaroni. Cabbage and brocoli are coarse and offensive, unless when boiled in two successive waters, and rendered bland. This process of twice boiling frees the cabbage tribe from noxious matters, which occasion flatulencies and other unhealthy effects.

Carrots should be reduced to a pulp, and turnips freed from woody fibres. Spinach should be treated in the French manner, by pressing its pulp through a hair sieve, and should be spicily seasoned. Onions, and roots of that sort, contain acrimonious juices, and are in no way nutritious.

Several changes may be obtained by stewing celery, cucumbers, and other indissoluble vege-

tables; but it may be safely adopted as a rule, that whatever food produces flatulency is unsuitable.

With all kinds of vegetables, as also with soups and fish, either black or cayenne pepper may be taken freely: they are the most useful stimulants to old stomachs, and often supersede the craving for strong drinks, or diminish the quantity otherwise required.

A little ginger in the tea is also stimulating, and grateful to the palate.

No apology can be expected for discussing subjects connected with cookery, and the domestic ordering of diet, which, in my estimation, are highly important matters; and a close attention to them has often proved satisfactory when the *materia medica* has failed.

The great father of the medical and chirurgical art, Hippocrates, laid much stress upon diet; and a whole sect of later physicians esteemed drugs to be only a part of diet. Remnants of these doctrines are still observable in the repute of our ordinary pot-herbs and domestic medicinal plants. Although regularity in diet, and strict temperance, both as to the quantities and qualities of viands and drink, are of the highest consequence for the health of the aged, yet a long continued and exact sameness in

strict habits is not always beneficial. Little deviations from one kind of proper diet to another, still keeping within the bounds of moderation, are consonant with the system of nature, and are approved by experience. The gross browsing of subdued cattle presents an interesting lesson, since they devour many plants indiscriminately, which contain very opposite properties; and in the dried assemblage of hay no selection is permitted. This seems to be a wise provision, not only to mingle stimulants with bland substances, but to afford a constant supply of anthelmintics for worms in the alimentary passages, which are injurious to many animals when severely restricted in their diet. Perhaps the changes of the seasons, and the consequent variety of aliment thereby presented to the animal creation, may be needful and wise ordinations to enforce alterations of diet; both of them having the effect of interrupting the continuance of constitutional errors. Thus, by a genial, simple, and unobserved governing power, the bodies of the animal creation are beneficially adapted to the revolution of the seasons, and the harmony of the vegetable and animal kingdoms is beautifully preserved.

It may be doubted, whether the artificial resistance to the seasons which affluence commands, is, on the whole, beneficial to the families of its pos-

sessors, in consequence of its frequent misapplication; and I am, therefore, obliged to consider this operation of wealth, as a great source of both hereditary disease and of enfeebled progeny.

A long-continued sameness of local and of family habits does not act in the same degree upon labouring persons; but, in all cases of locally protracted generations, the consequences are, the augmentation or establishment of some constitutional or hereditary disorder.

Thus, it seems probable that many diseases are more immediately propagated by the influences of local and dietetic habits than by taint of blood, or by corporeal and organic similitudes; and this view extends equally to scrofula, gout, and insanity.

Where, however, riches are wisely employed, the effects of unhealthful local causes may be interrupted by change of residence, adapted to the peculiar disordered tendency, and to the unsuitableness of particular seasons. For as the animal energies are never stationary, perhaps health may, in all cases, be promoted by occasional vicissitudes. It might be wished that art could secure an equable state of health, but the laws of animal life seem to forbid it, and the following notorious facts support a contrary decision.

In the training of athletic men, of race-horses,

and fighting cocks, experience has shewn that their strength cannot be preserved in its highest vigour for many weeks together; and every attempt to force its continuance is followed by disorders. Temperance may be carried so far as at length to border on abstinence, or it may be altogether erroneous, and directed to wrong objects. Excessive abstemiousness is seldom conducive to health, because a copious supply of fresh and wholesome material seems to be peculiarly needful for the aged, whose bodily offices are becoming every day less perfect; frequent and abundant supplies of renovating juices are particularly requisite in a vitiated condition of the fluids, and where the maintenance of a due quantity of blood is precarious, both of which occur when the vital operations are enfeebled. The obstinate fasting of maniacs often occasions a disease, which resembles the sea-scurvy. The errors of temperance, depending on an unsuitable choice of food and drink, as they regard different constitutions and the younger stages of life, form an expansive subject far beyond the intended limits of this treatise; it may, however, prove expedient at present to remark, that a weak stomach is wholly incapable of digesting many substances which are commonly esteemed simple and inoffensive.

For example, persons liable to heart-burn, or St. Anthony's fire, may think it right to restrict their diet to fruit, raw vegetables, shell-fish, and lemonade; although each of them are adequate causes for such habitual disorders. In like manner, the victims to gout may assume great merit to themselves by abstaining from animal food, and by living upon a simple acescent diet, most pernicious to their constitutions.

Diet, judiciously ordered, equally promotes bodily and moral health; for good digestion favours refreshing sleep, and causes a state of corporeal hilarity conducive to moral enjoyments; while, on the contrary, a disordered state of the stomach and its dependencies, creates troubled dreams and irritations of the temper. May not some kinds of mania be attributable to continued disturbances of the stomach and bowels, which in time deprive the oppressed sufferer of the power to distinguish between his sleeping and waking impressions? Attention to temperance, and to a select and easily-digested diet, are most especially needful for persons addicted to severe study, and to those who suffer from anxiety or distress. It may also be assumed, as a general fact, that the hurtful influences of mental labour, or moral suffering, prove more injurious to the bodily health as life advances,

and that such causes commonly exert their first bad effects upon the stomach and bowels.

Cold baths, and what is called "bracing air," do not appear to produce much tonic effect upon old or delicate persons; and besides, all sudden chilling of the skin repels the capillary circulation throughout the surface of the body, and drives the blood upon the inward parts, which is always attended with danger to persons advanced in life.

Tepid baths may be recommended as no less pleasant than salutary; for ablutions of water have a constricting influence upon the living fibres, independent of temperature, an effect perhaps similar to that of crimping fish.

Warm clothing is proper for the aged, and the maintenance of a temperate atmosphere in lofty and well ventilated rooms. Where a choice of climate can be made, a preference should be given to that which possesses a dry warm air, and where the vicissitudes of the seasons are moderate.

Exercise should never be imposed as a task, nor continued until it produce fatigue; but should be moderate and suited to the inclination of the party, otherwise it becomes labour.

The tranquil sorts of indulgence are to be preferred; and it is pleasing to reflect, that most of

the essential accommodations for old age are nearly as attainable by persons in moderate circumstances as by the affluent.

The simple and wholesome requisites for advanced age are not expensive; since when the vanities and turbulent propensities of youth have subsided, and the bad passions of envy and ambition have passed away, it is the condition of our nature to be more easily satisfied. Judicious temperance and forbearance from strong liquors are the most effectual means for preserving the eyes. Persons approaching to the age of sixty, are often known to have impaired vision amended by abstinence from all fermented liquors, and to overcome disordered affections of sight by attention to diet. The healthful condition of the eyes is deeply connected with the states of the stomach and bowels, and with a continued temperate flow of the blood. Hence aperient medicines, by removing impurities from both those sources, and a regimen which prevents errors in the blood-vessels, are found to relieve many disorders of the eyes. Deafness is likewise apt to depend on similar causes, and is capable of relief by following the same rules.

The medical administrations for old persons, which experience warrants me to commend, are few, and, I trust, rationally supported. In addition

to special diet, they consist of cathartics, bleeding, acids, alkalis, mercurials, and chalybeates.

The health of the body cannot be maintained unless the bowels perform their natural offices regularly and sufficiently, and when this wholesome evacuation is impeded it must be forced by art. Persons who have ruptures require appropriate laxative medicines, and particular diet.

There are various causes of obstruction of the alimentary passages; they may be rendered torpid by oppression of the brain, or sluggish by the advancing insensibility of age; or the muscular powers of the stomach, and of the intestines, may be exhausted from crude and indigestible food, so as to disable them from duly protruding their feculent contents. The bile, that natural cathartic stimulant, may be deficient, or obstructed; it may not possess its requisite qualities; or its effects may be counteracted by improper diet.

The class of cathartic medicines comprises a numerous list, and each differs in its mode of operation, either as it affects the stomach or the upper or the lower intestines: some act by increasing the muscular contractions, some by causing an increased flow of watery pieces into the bowels, and others are said to stimulate the biliary vessels to pour out their cathartic fluids.

Although each of such medicines may be a fit remedy for particular disorders, yet the success of their employment will depend on the adaptation of the drugs to the nature of the malady, the amount of their doses, and the times of their administration. In exhausted states of the body, dry and hard pills are slow of solution, and they are apt to create headach and great distress, until their concentrated materials dissolve and become diffused over the interior of the stomach. I have found such pills undissolved in the stomach on the third day after they had been taken: but my professional thoughts upon cathartics are given in another part of this work.

The Greeks employed a class of cathartics, termed eccoprotics or forcers; and the following pill has been found to answer that purpose:

Take aloes and pure scammony, thirty grains of each, make them into fifteen pills with Venice turpentine,—one pill to be taken at bed-time.

The leading indications which guide the skilful and discriminating practitioner in directing cathartics, are to be observed on the tongue which shews the condition of the stomach and bowels; in the colour of the urine and fæces; and in the appearance of the skin; by which tokens the state of the biliary system may be discovered.

These evidences are, however, liable to be blended with disordered states of the sanguiferous vessels, and on the detection of such errors the question of bloodletting depends. The signs of over-fulness or scantiness of blood are commonly well marked. A strong beating and full pulse, with high temperature of the body and limbs, deep coloured lips, and tense, swollen veins express the state called plethora, or excess of blood.

When those symptoms are accompanied by frequent obscurations of sight, swimming in the head, giddiness, intense headach, drowsiness, laborious breathing, or feelings of terror, bloodletting should be confidently directed without any reference to the age of the patient. Many fatal diseases of the head or lungs, in very old persons, originate from plethora or local congestion, and free bleedings with the lancet, by cupping, or leeches, are the only effective remedies. How many persons, in the most advanced stage of life, are respited from the grave by spontaneous bleedings from the nose or from piles!

It is true that mere anatomical or mechanical practitioners are unable to appreciate the peculiar advantages of topical bloodletting; but the more scientific part of my brethren, who have considered the hydraulic discoveries of Venturi, and the ex-

periments of Spalanzani, on the circulating fluids of animals, will perceive the practical bearings of those discoveries.

Intermissions of the pulse, in old persons, afford no justifiable objection to bloodletting; but, on the contrary, that irregularity rather seems to depend on oppression of the heart from surcharges of blood, beyond the rate of its enfeebled muscular powers; and the pulse generally becomes more equable after the excessive volume of blood is reduced. Neither does a sudden œdema, supervening on true inflammatory diseases, forbid bloodletting, because serous effusions are frequently the known effects of such diseases. I have seen persons, above the age of seventy, labouring under dangerous inflammation of the lungs, with a sudden accession of dropsical swelling in the legs, and who were acknowledged to be saved from the jaws of death by resolute and copious bleedings, in contempt of the œdema.

The judicious direction of bloodletting forms an essential part of medical skill, but, unfortunately, the judgment which is to guide the practitioner is unattainable, except it be derived from experience.

A small, weak-beating, and slow pulse, pale lips, a low temperature of the body, cold hands and feet, and a remarkable aptitude to become chilled in cold weather, are the signs of paucity of the

blood and feebleness of the circulation. The complexion of the face is not a criterion of the quantity of the blood, for I have often known the true sanguineous apoplexy to attack persons with remarkably pale countenances. That disorder when produced by scantiness or poverty of the blood must be remedied by plentiful and nutritious diet, suited, with respect to quantity, quality, and times of refreshment, to the digestive capacities of the individual. Wines, if agreeable to the constitution and habits of the weakened invalid, are often beneficial. They seem, when congenial, to invigorate the heart, to augment the bodily temperature, and to improve the nervous and sensorial powers. They are diffusible and temporary stimulants to the whole vital system. In some instances of debility, suitable wines appear to strengthen digestion; but, perhaps, that salutary consequence is rather due to their influence upon the sanguineous and nervous organs. The intimate connexion between the health of the stomach and the circulation of the blood renders wine allowable where the vascular system is habitually weak; and, probably, in such cases, wine prevents greater evils than those which it is known to produce. The most cordial wine for old persons seems to be mild and old sherry, when free from acidity; the long-continued habit of

drinking wine, however, produces a sinking in old age, which is only removed by a total abstinence, until the system is freed from vinous acidities.

There is a poverty of blood which seems to arise from deficiency of the red colouring particles, and for which medicated preparations of iron and chalybeate waters are well known specifics; of all the remedies of pale-faced debility, at any age, chalybeates are the most efficacious: it appears from the best chemical analysis, that the red colour of animal blood is derived from iron; and the exhibition of it as a medicine is only the artificial supply of a constituent part of the body, where it is obviously wanting.

Impaired digestion is an extensive source of disorder, for, whenever the food is not quickly acted upon by the living stomach, it becomes liable to fermentations. In old persons, the food remains longer uncontrolled by the vital energies than in young persons, and is never so perfectly digested; hence, the food of old persons admits more readily of both the acetous and putrefactive fermentations: either of which happening, even in a small degree, occasions disorders of the stomach or intestines, and suffuses the body with vitiated fluids. The acetous fermentation is most common, and it is especially incident to those who eat raw vegetables,

fruits, sweets, and fatty substances; and every excess in diluent liquors is apt, also, to produce it.

Long experience and meditation persuade me, that alimentary acidities are the chief, if not the sole, cause of gout, rheumatism, gravel, of one kind of erysipelas, and of many herpetic diseases. When this tendency to acid has long prevailed, it is not easily corrected; and, unless the most circumspect attention be constantly given to diet, it will continually recur.

Acidity of the stomach is, moreover, a cause of obstruction to the flow of bile; and, under this disordered state, the whole body becomes jaundiced, and tainted with crude humours. I have known many examples of acid stomachs linked with eruptions on the skin, and which were always sensibly aggravated within five minutes after taking acid food or acid drink.

The rapid consequences which follow that state, called a surfeit, are further proofs of the quick transition of disordered humours from the stomach into the rest of the body.

Some of the dangerous and sudden disorders which arise from intemperance may be averted by instant emetics; but vomiting is an unsafe operation for old persons, and it is only warranted by pressing necessity. Purgatives should follow those emetics,

to expel the relics of corrupted aliment; and great precaution must be adopted afterwards respecting diet, and the free passage of the bowels. From neglect of these rules many disorders are allowed to accumulate, until at length they assume a formidable aspect.

Diseases, purely inflammatory, appear to be few and of rare occurrence; whilst the most dangerous spontaneous inflammations are connected with previously established and vitiated conditions, which only require an exciting circumstance to bring them into activity.

Diseases of the sanguineous system are the most frequent causes of death at all ages; but they seldom occur to persons whose alimentary organs and whose blood might be considered free from impurities. To these causes may be confidently ascribed erysipelas, gangrenous inflammations, carbuncles, and many kinds of apoplexy, pneumonia, rheumatism, gravel, and gout,—diseases which, according to my apprehension, are closely allied to each other: obstructed bowels are, likewise, not unfrequently the cause of an obstinate and distressing species of sciatica.

Alkalies are the medical remedies for occasional or habitual acidity in the stomach; and twenty grains of carbonate of potash given as a corrective,

in a wine-glassful of warm water or milk twice a day, will generally answer the temporary purpose. This medicine seems to act beyond its chemical operation in the stomach, and when used frequently it probably may pervade the whole body. I have often known it to speedily remove painful conditions of the bladder and urinary passages, which were connected with sourness of the stomach, although the disorders had continued for several months. The affections called gravel are generally of this kind.

Alkalies, judiciously employed, possess both preventive and curative virtues for many disorders, especially for herpetic and long-established eruptions of the skin; and the rationale of their uses is better understood than those of most other medicines.

In all cases of lowness and depression, the volatile alkali is preferable, because of its cordial property. May not its utility, when taken for gangrenous erysipelas, be owing to its anti-acid effects? To whatever extent hypothetical doctrines may assign to life the power of destroying all chemical effects within the human body, experience affords practical evidence to the contrary; and a scientific observer will soon perceive the great utility of administering acids and alkalies as chemical remedies, making

due allowances for the abatement of their action, and want of precision in their doses, from the variable and complex operations of living structures.

A popular hypothesis is now very prevalent, which attributes nearly all diseases to a disturbed state of the liver; and for which mercurial drugs are lavished, almost indiscriminately, as the professed remedies. The folly of expecting to repel this, or any other opinion which is favorable to the natural indolence of mankind, is obvious, especially when it is at the same time upheld by the empirical interests of greedy individuals.

The patrons of the universal bilious system, and the abettors of its universal remedy, mercury, may, perhaps, awake from such reveries when they are warned of the variable and opposite ways in which the liver and its vessels may be deranged. The organ which makes the bile may yield too much or too little: it may possess too much acrimony, or it may be deficient in the requisite degree of stimulus: it may be too rapidly discharged from its reservoirs, or may remain too long confined. The issues of the bile may be disturbed by disorders of the stomach, or errors of the bile may cause these disorders; added to which the liver and its functions may be healthful, while the intestines, upon which the bile is destined to act

as a stimulant, may be too irritable or not sufficiently so.

The notorious deficiency of bile in persons labouring under Indian cholera seems to be fairly imputable to the paucity of blood sent to the liver, while its serosity is drained away by the serous catharsis.

From this view, it cannot be questioned whether bilious disorders ought to be considered as of one and the same kind, or whether the same remedy can be rationally employed for maladies so widely different.

Such intricacies and complexities in the perilous art of medicine ought to deter unqualified pretenders, and to demand greater deliberation and study from the regular faculty. It is, however, but justice to say, that the respectable and grave referees of the profession are seldom turned aside by popular delusions.

The various preparations of mercury are, doubtless, of great value in the medical profession; but their excessive employment for every supposed disorder of the liver cannot be defended, and the indiscriminate use of them as cathartics or domestic medicines, is often injurious.

Both the mineral and vegetable acids are powerful correctives of putridity, but they do not contain

any substantial nourishment; as articles of diet or medicine, their uses are of the antiseptic kind, and become needful where excessive quantities of animal food are employed.

The aged are liable to untoward disorders of the urinary passages; and when any sudden obstruction of this sort occurs, which does not arise from diseased structure or stone, it is commonly the sign of oppression of the brain, tending to apoplexy or palsy. It is of leading importance to discover whether the urinary impediment has any connexion with vascular plethora, or with alimentary depravities, because the life of the patient will hinge upon speedy, powerful, and proper administrations. The temporary and delusive relief derived from drawing off the water artificially, although absolutely needful at the time, is of no avail to the patient's ultimate safety, whilst diseases of the brain or the bowels are sapping the chief organs of life. This ill-omened malady requires the aid of an experienced and resolute master of his art; and under his auspices the uplifted hand of death may be often turned aside, even at a very advanced age.

It is a vulgar error to consider all dropsical diseases as the signs of debility, and the results of mere weakness. They are generally symptomatic

of impaired constitutions; but they often proceed immediately from inflammatory causes and from organic derangements. The local dropsy in the scrotum, called hydrocele, is seldom of a serious character, and ought not to create alarm.

In reverting to my first assertion, that diseases, and not the mere exhaustion of age, are the ordinary causes of death in old persons, it may be beneficial to recapitulate those of most dangerous tendency, the apparent origin of them, and the remedies which medical skill has discovered for their prevention or cure.

Apoplexy, palsy, or pneumonia, arising decidedly from plethora, require vigorous bleedings, cathartics, and abstinence. The same diseases, when occasioned by intemperance or injurious diet, require evacuants and correctives. Erysipelas, carbuncle, or gangrenous inflammation, arising from surfeit in the stomach, or from foulness of the bowels, must be treated according to their ascertained causes. Gouty diseases, which are provoked and maintained by improper diet, can only be remedied by having recourse to a diet that is exact and appropriate. While the great excretory outlets of the body, the bowels and the urinary passages, with all their connexions, must be constantly watched; and when impeded, they must be timely assisted by art.

There is an affection, not uncommon to old persons, which resembles apoplexy, arising from scantiness, and perhaps also from poverty of blood. This is accompanied by faintings, the person having a slow feeble pulse; the faintings happen in the upright position and after long standing up. Such persons have their lives prolonged by full diet, and the fit is removed by resorting to the horizontal position instanter.

I think that this condition is often dependent on the habitual stimulus of wine, which, I believe, *thins* the blood, and fails to supply a permanent suitable volume of the circulating medium.

Milk diet, and frequent supplies of animal broths, have, under my experience, forced life on for some years beyond the apprehended close.

From a wish to awaken the attention of my brethren to these important cares and duties, I have again ventured to solicit the confidence of the elders of our race in the medical profession, with a full assurance that the faculty now possess the power to protract life and assuage suffering, under many of the circumstances which I have attempted to describe.

To pass over the long list of *Materia Medica* in modern use, may be thought presumptuous; but I prefer to risk the imputation, rather than waste

my own and my readers' time in treating of the qualities of medicines, which are either altogether useless or uncertain in their operation. The art is already too much encumbered with frivolous prescriptions, and obscured by unworthy mysteries. Experience has satisfied me, that many diseases may be prevented or removed by temperance, and by the rational administration of medicines, whose operations are understood, without much encroachment on the fair enjoyments of life.

It is a wise maxim in physic that diseases, which are long in their advancement, are generally only to be remedied by long-continued curative attentions. Common sense points out the fallacy of expecting to eradicate old-established errors of the body, by any single or sudden remedies. The warnings of dangerous diseases should never be forgotten; and the diet, or medical regimen of all patients, should be undeviatingly suited to their disordered tendencies.

To this general exposition of my individual experience and opinions, I shall add a few remarks upon the moral propriety of surgical operations on old persons.

The justifiableness, or the moral propriety of many surgical operations which endanger life or the loss of limb, is not always so gravely con-

sidered as it demands; but, perhaps, during a long life as a public practitioner, I have had some share in abating the hasty execution of those doubtful enterprises; for both in public hospitals and in private practice the numbers of amputations and trepanning are daily diminishing; and those diseased conditions of limbs which formerly induced a violent operator to sacrifice a member without hesitation, are now subjected to a fair trial for restoration, and not condemned until the impossibility of saving it becomes incompatible with the continuance of life.

So likewise in cases of injury to the skull, the dangerous operation of trepanning is seldom resorted to, unless its remedial effects promise a better chance of saving life than a passive obedience to the efforts of nature.

It is to be lamented that these high considerations are not equally adopted in neighbouring nations: an accomplished student just returned from a twelvemonth's attendance on the principal hospital at Paris, lately mentioned in the presence of nine of the chief surgeons in London, "that the last eighteen patients who suffered amputations of the larger limbs, *all died*;"—the methods followed in that Parisian hospital being totally different from the improved methods of London hospitals, where

it is notorious that more than three-fourths of the patients are saved.

The recklessness of many surgeons, both in England and in France, should be controlled; and although any judicial power which excluded members from the profession would be liable to gross mistakes, yet a well-constituted board of professional senators might, from time to time, exercise a beneficial authority by establishing their decisions upon statistic reports, to be obtained from all the medical and surgical hospitals of England. And from this source, the heads of families, and the commanding officers in the navy and army, would be enabled to judge of the conduct of their respective medical attendants.

The greater exertions of my life have been devoted to the collection of materials for a general review of surgical ethics; a subject which appears to be at this time imperiously demanded, both for the welfare of the public and for the character of the profession of surgery.

Dangerous operations are rarely advisable in advanced age, because the living powers are then diminished, and old persons are seldom exempt from constitutional disorders. The disastrous consequences of unsuccessful or imprudent operations are most extensively injurious; and desperate

expedients are not justifiable upon the false and horrible plea, that the value of life decreases as age advances.

Where there is much probability that a patient may die under an operation, it is unwarrantable.

Whenever the ultimate danger to life from a surgical operation exceeds the probability of recovery from its effects, the act is unjustifiable.

When the consequences of a mortal disease are only to be averted by a dangerous operation, the enterprise may then be expedient.

When a contemplated operation involves immediate danger, it should be carefully balanced with the pending consequences of the disease for which it is proposed; and the operator should be governed by that prospect which affords the best hope of prolonging life.

When a safe operation will alleviate the sufferings, or remove the inconvenience of a disease, it is preferable to one which promises permanent relief at the risk of life.

When other fatal diseases are known to be lurking in the frame, such as consumption, or tendency to apoplexy, it is right to avoid all violent operations.

When the same disease for which an operation is proposed is incurably established in several

parts of the body, the sacrifice of one part is inexpedient.

The performance of surgical operations upon old persons, for the removal of harmless tumours or mere deformities, ought to be objected to.

It is always unsafe to perform operations upon old persons who are liable to erysipelas.

The satisfaction which follows the observance of these rules induces me to submit even crude and general sketches of them to my brethren; but, as the vital powers vary in old persons, some exceptions will arise to any general rules which may be laid down for their treatment.

I consider all the larger amputations, as those of the arms and legs, to be seldom advisable for persons on the confine of seventy, unless the occasion be sudden, and the patient of sound habit.

The operation for the stone is at all times dangerous; and I think it better for men advanced in life to bear the pains of that affliction in preference to the risks and consequences of a terrible expedient.

Strangulated ruptures in old debilitated persons are generally reducible by the hand, the parts being more lax and yielding than in young persons, and the propensity to violent and dangerous inflammation is at that period abated.

Hydrocele is most prudently treated by simple tapping, particularly when the patient is feeble or in bad health: the attempt to cure it radically has often proved destructive to old persons.

It is revolting and disgraceful to hear of the numerous instances of fatal operations performed upon persons who were altogether ineligible; and it may be remarked, that these mischievous effects are not confined to the suffering parties, since evil reports spread widely, and are generally unaccompanied by the palliative explanations which may belong to them.

These rash proceedings are also injurious to society, by deterring many persons from availing themselves of surgical skill, in cases where they might derive real benefit.

However earnestly the afflicted may desire relief from loathsome, painful, or incurable disease, even if they prefer the sacrifice of life to the endurance of protracted suffering, still the surgeon should refuse to comply with their improper wishes, and not become a party to homicide.

To prolong life under any circumstances, and to diminish the intensity and duration of bodily misery, is our bounden duty; but we are not called upon to decide whether it be better for a patient to die under a violent struggle, or to wait for the Almighty

command, — such questions are, indeed, above human authority.

The same imperative objection is likewise applicable to the practice of giving poisonous doses of opium toward the close of painful and apparently fatal diseases, — a measure which ought to be equally reprobated, both from professional and moral considerations.

Medical judgment is not infallible, and the event of recovery from the most hopeless state is seldom impossible ; but to preclude even a forlorn chance, or to abridge the sufferer of one lingering moment, is far beyond the province of medical men.

Desperate operators should be reminded, that it is not uncommon for persons to recover from diseases which are generally supposed to be mortal ; but I must reserve the further observations upon that grave and momentous subject, until I am enabled to lay before the public the particular evidences of my own practice, and my especial deliberations upon surgical ethics.

We happily live in an age of enterprise ; and among the most important surgical improvements, that of breaking and extracting urinary calculi may be justly regarded as of the highest value.

The operation of cutting for the stone has ever been accompanied by incalculable difficulties ; and

the continually varying methods and instruments prove the uncertainty of that desperate operation.

Probably the next advancement in the art will be that of injecting suitable solvents into the bladder, after the chemical composition of the stone has been ascertained.

EFFICACY OF CATHARTIC MEDICINES.

ON
CATHARTICS.

THROUGHOUT the range of the materia medica, there is no class of remedies possessing such extensive efficacy as the medicines which operate as purgatives. They are employed by the public, and sometimes ordered by inconsiderate practitioners with so little discrimination, that it may be hastily concluded that they all operate nearly alike, and require little or no selection to adapt them to the various shades of disorder, and to the infinite peculiarities of the human constitution. Every experienced and thinking practitioner knows the fallacy of this vulgar opinion; and yet, domestic receipts and ready-made doses of all kinds of cathartic medicines, are usually administered without bestowing a thought upon the adaptation of the drug to the particularities of the disorder. The

very pharmacopœias of the medical colleges tend to propagate these popular errors.

The various medicines employed to evacuate the bowels operate so differently when only used singly, and their effects are so complicated when many of them are combined together, that our junior brethren may be glad to see a brief view of the several modes of effecting a catharsis.

It would be no small support to the medical character, if the rationale and the fitness of remedies were more frequently explained to the better informed patients. And if the groundwork of our art could be constantly shewn to be established upon physical and rational inductions, it would tend, above all other things, to demonstrate the folly of domestic nostrums, and the mischievous absurdity of swallowing quack medicines. Perhaps the banishment of every kind of medical mystery would contribute most effectually to advance the rational rank of the medical art, and afford a fairer scope for the display of real knowledge and sound judgment. The public must always consider every species of concealment as liable to be taken for deception practised to cover ignorance, or something worse. The supposed good, which is said to arise from the concealment of the feeble or inadequate means prescribed in mystical characters for hopeless

disorders, is more than overbalanced by the total degradation of our art, as it is hourly practised, and exposed to the view of sensible men. We may be suspected of being ashamed to explain our means, and unwilling to submit the results of solid experience and sound judgment to common sense.

Cathartics seem to operate in the following several ways, viz. either by exciting the muscular motion of the intestines to an unusual degree, and thereby causing them to protrude their contents more quickly through the alimentary passage; by increasing the fluidity of the alimentary mass by substances which are obnoxious, or by a combination of these two effects. The first kind of cathartics probably act upon the muscular fibres of the intestines, and the second seem to affect their vascular and excretory membranes.

Some cathartics induce an unusual flow of bile into the intestines, and in this respect they are said to resemble, in their *modus operandi*, the natural stimulus of the bowels, which is the bile. Others stimulate the exhalant vessels of the intestinal membranes, and thereby give an excess of fluidity to the volume of their contents; or all these several modes of operation may be united by a suitable mixture of cathartic medicines.

Again, some cathartics act especially upon the

stomach and the upper portion of the intestinal tube, and others seem to stimulate particularly the lower and larger intestines. Some act by emptying the bowels only, without diminishing the animal vigour; whilst others sink the strength of the patient, by emptying the sanguineous system at the same time that they hurry away the nutritious aliment,—and these are practically most important distinctions.

Other causes, in addition to those which I have before mentioned, contribute to vary the operation of cathartic medicines; viz. the doses in which they are taken, the solid or the diluted state in which they are administered, the existing condition of the patient, and the quantity of fluid drunk before or during the catharsis, all tend to produce differences in the effects of purgative medicines. It is also not unfrequently a point of great moment, to determine whether purgatives should precede other remedies, or be employed after them. For example, in cases of foulness of the alimentary passages, accompanied by a dangerous fulness of blood, it may be a question whether bleeding should go before cathartics or follow them; and upon a steady and judicious decision in such cases, the life of the patient will often depend. Corpulent persons beyond the middle age, attacked by carbuncle, mortifying inflammation, or threatening

apoplexy, may be lost before purgatives can remove the offending matter, unless the sanguineous system be first sufficiently unloaded. But where a gangrenous erysipelas originates from what is called a surfeit, the emptying of the alimentary passages, and the correction of fermentations in the stomach or bowels, are essential points; and the vascular system must be left to the indirect operation of purgative depletion, of abstinence, and of suitable correctives, such as the alkalies, when acidity pervades the stomach.

Rhubarb appears to act chiefly upon the stomach and upon the upper portion of the small intestines, when used for the removal of sick headach or ingesta: it seems to operate most effectually in the form of powder, which should be mixed at the time of its being taken, because, when allowed to infuse itself in watery liquids, it loses much of its activity. Rhubarb acts more effectually upon the stomach when united to ipecacuanha, and to the stimulant aromatics, such as pepper or ginger. I believe that a dose of fifteen grains of rhubarb, one grain of ipecacuanha, and five grains of ginger, is generally effectual in adult persons. If, however, the stomach should be invaded by acidity, calcined magnesia should be employed in doses of forty grains, to be repeated every two or three hours,

until the acidity is corrected. In these instances the patients should drink little, as excess of fluid favours the acid fermentation; and sugar, or syrup, should be avoided. With becoming respect for my brethren and for their established usages, I cannot avoid blaming the frequent practice of joining syrups and other saccharine matters with nauseous drugs. If the intention be that of rendering medicines more palatable, I think the purpose is very doubtful; but where the disorder in question is connected with acidity in the first passages, saccharine matters become fuel to the fire. Disorders of the stomach, of the biliary system, and of the upper portions of the intestines, are seldom restricted to those particular parts. They often depend upon obstructions of the inferior bowels, or in their turn cause obstructions in those parts. The stomach is always disordered when the functions of the liver are deranged. Again, the state of the mind, the condition of the sensorium, and of the whole nervous system, affect the stomach and bowels, and render them more or less susceptible of catharsis. The secretions and discharges of the liver are also affected by the sensorium and by the passions. Sudden and violent passions occasionally induce a bilious diarrhœa, or, sometimes, a sudden fit of jaundice; but, in general,

all the distressing passions, as well as bodily pain, are productive of torpid bowels, which require to be watched, since the neglect of those evacuations often lead to serious disorders, both mental and corporeal.

The natural source of catharsis is doubtless the liver; and upon the skilful management of this organ, the health of the feeble, the sedentary, the studious, the distressed, the infant, and the aged, will often depend.

Saline cathartics operate by exciting watery discharges. When neutral salts are given in full doses with a small quantity of fluid, they seem to excite the intestinal exhalants, and induce a flow of serous liquid, which is then abstracted from the mass of circulating blood; but when they are given with copious dilution, they seem to wash out the intestinal tube without diminishing the blood or impairing the bodily strength. Perhaps the weaker solutions of cathartic salts are not liable to absorption, and hence the whole volume of fluid drank at the time passes rapidly through the intestines. Half an ounce of Epsom salts, dissolved in a pint of water, generally operates sooner and more copiously than an ounce of the same kind of salts dissolved in a quarter of a pint of water. Besides, the highly diluted dose of salts does not abstract

any part of the circulating nutriment, and if taken before breakfast it does not carry off the digested aliment; whilst full doses of neutral salts, unaccompanied by copious dilution, prove exhausting and injurious to debilitated persons. In cases of emaciation, connected with habitual foulness of the bowels, these diluted doses of neutral salts may be often repeated and continued for many weeks with beneficial effect.

In this manner the Cheltenham and other purgative mineral waters operate; and the general testimony in favour of them proves their usefulness. A quarter of an ounce of Epsom salts may be taken in a full pint of tepid water every second or third morning. In some languid cases, chalybeates may be added with advantage; as for example, six grains of ammoniate of iron in each dose of salts. In some febrile cases, antimony may be beneficially united to the salts; viz. either fifteen drops of antimonial wine, or four grains of antimonial powder, may be given with each alternate dose, since they increase the purgative effect.

It is remarkable that the greatest number of the compounds formed of vegetable alkali, mineral alkali, or the earth of magnesia with the perfect acids, are purgative, whilst ammonia and the earths, formed into neutral salts, have not the

same properties. Epsom salts are more to be relied upon than the other neutral salts, because if decomposed *in transitu*, still the earthy basis is purgative.

The cathartic neutral salts are always improper when the large intestines especially are foul; and in all acute disorders affecting corpulent persons they should be avoided, until the sacculated bowels are previously well cleansed by such stimulating cathartics as jalap or calomel. In cases of great laxity of fibres, in dropsical diseases, and whenever the digestive organs are impaired without an obvious connexion with distempered bowels, the diluted neutral salts are improper.

Castor-oil is commonly certain in its operation, and it very seldom induces an exhausting catharsis. Perhaps the viscid oil, containing an acrimonious resin, is adverse to absorption throughout the whole of the alimentary passages. The use of castor-oil seldom leaves costive or relaxed bowels. It is improper in cases of alimentary acidity, in erysipelas, and in the ordinary examples of hæmorrhoids.

Jalap is one of the most powerful cathartics, and it is especially adapted to cleansing the lower bowels; it seems to act by stimulating the peristaltic motions; it operates most effectually when

given in powder; its nauseous taste is much concealed by coffee. It is seldom given alone; but when so administered, the dose may be from thirty to forty grains. Jalap is usually administered in repeated doses, and mixed with infusion of senna and neutral salts; in all acute diseases, where a complete clearing of the bowels is the leading indication, jalap is most to be relied on. It is, however, an exhausting cathartic, and it seems to debilitate the digestive power of the stomach.

Aloes and colocynth appear to resemble the bile in their physical properties, and perhaps they act upon the intestines very like that natural stimulus. It must, however, be noted that these drugs enter by the stomach, and have to pass through it, whilst the bile is directed to fall into the intestinal tube beyond the stomach. It has appeared, in my experience, that all the hot essential oils, added to aloes or extract of colocynth, both impede their operation and prove otherwise deleterious: I doubt much the propriety of exhibiting these drugs in a fluid state, since they always derange the stomach, and often produce headach. Given in the form of a hard pill, containing five grains, when the stomach is moderately distended, and a grain of ipecacuanha given about ten minutes afterwards, their combined effect is usually that of protruding the chyme

into the intestines, and consequently of removing oppression. It should be known that the solution of gum resins in the stomach is effected much slower than is ordinarily supposed, which anatomical researches after sudden deaths have often shewn. In all cases of obstruction of the passage of the bile into the intestines, these drugs are suitable; but in their passage through the stomach they derange it like bilious regurgitations, and hence it is desirable to hasten their protrusion into the intestines.

Scammony, gamboge, and elaterium, seem to stimulate the muscular, and perhaps the nervous, parts of the bowels; but they are seldom given singly, as their effects are precarious.

The combination of magnesia with manna may be often successfully presented to young children; and the union of these two substances is frequently adapted to the acid state of their stomachs. Senna is usually given in conjunction with other cathartic drugs: its activity, when given alone, is unsteady; and it often produces violent griping. Purgative tinctures are seldom to be relied upon; and the heating effects of the spirit of wine are often ill suited to the states for which cathartics are given: in all bilious cases I am satisfied they are improper. Aromatic waters, or those in which essential oils

are diffused, seldom agree with the stomach, and, I think, they do not prevent griping. When powerful cathartics are suddenly demanded, and when they require to be often repeated for the purpose of carrying off feculent accumulations, the combination of irritating cathartics and hydrogogues is needful. As, for example, a drachm of powdered jalap, two drachms of manna, two scruples of cream of tartar, and half a pint of infusion of senna; of this mixture, three tablespoonfuls may be given to an adult every hour until it cleanses the bowels freely, which is only to be known by the fæces ceasing to be offensive, or of an unnatural colour. If the urgency of the case does not forbid it, the exhibition of two grains of calomel twelve hours before the commencement of this clearing purgative will be often beneficial. The colour of the fæces and the colour of the urine are the sure guides to a knowledge of the condition of the hepatic system. If the urine is of a deep yellow colour, and the alvine evacuations devoid of the yellow tinge, it may be fairly inferred that the bile is either not duly flowing into the intestines, or that its properties differ from those which nature demands. Superficial, hasty, and inconsiderate men are too apt to decide that when the biliary system is deranged, mercury is the sure remedy. Unfortunately they

do not wait to deliberate, or else they might be aware that the liver may secrete more or less bile, or that it might be too acrid or defective in that quality, or that its flow might be unduly accelerated or retarded; that the passions of the human mind might disturb the liver in all the preceding ways, and thus form a moral cause of disorder, or that it might be invaded by inflammation, chronic or active; or indirectly disturbed by disordered states of the stomach, or even of the bowels. In some of these cases I have known alkalies prove remedial; in others, the mineral acids; in some, exercise; in others, quiet; and, in some of those affections, electricity has proved a decided remedy.

When the urine is to be watched as a test of the hepatic operations, rhubarb should not be given, as its tinging colour spoils that criterion. When other depositions are to be accurately enquired into, magnesia should not be given, as I am satisfied, from constant experience, that it passes through the circulation so as to concrete again in the bladder: this fact any person may witness within an hour after taking a full dose of magnesia; and for this reason, I doubt much the propriety of administering that earth in all calculous cases, for whether they be magnesian or not, and that is not

determinable by the ordinary symptoms, still a known concrescible earth should not be introduced, as the presence of any nucleus would, doubtless, afford scope for new accretions.

FINIS.

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