

ADDRESS IN MEDICINE

ANCIENT AND MODERN PRACTICE OF MEDICINE

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WHEN the late distinguished Professor of Logic and Metaphysics in the University of Edinburgh inquired, "Has the *practice* of medicine made a single step since Hippocrates?" and, in vindication of his own belief in the negative conclusion, referred to the recorded opinions of several eminent authorities of modern times in the profession, he put a question which no thoughtful mind within the pale of medicine will be inclined to evade, and the consideration of which, after some sort, may suitably engage our attention in such a meeting as the present.

Sir William Hamilton, in penning the question referred to, had under review "An Account of the Life, Lectures, and Writings of William Cullen, M.D.," the famous Professor of the Practice of Medicine in the University of Edinburgh from 1769 to 1790, by Dr. John Thomson; and having noticed, in terms of well-deserved commendation, the masterly execution of his task by the eminent author of the *Lectures on*

Inflammation, and accompanied him in a brief survey of the doctrines promulgated by the renowned triumvirate of the early part of the eighteenth century, to wit, Hoffmann, Stahl, and Boerhaave, he is tempted by a mild reflection of Cullen on the practice of Stahl, which censure, indeed, was judged too indiscriminating by Dr. Thomson, to indulge in a philippic against the modern practitioners of the healing art, quoting, what for his purpose appeared to be the apposite phrase of Hoffmann, "Fuge medicos et medicamenta si vis esse salvus," and that of Celsus, "Optima medicina est non uti medicina." The vehemence of Sir William Hamilton's denunciation is more fully explained by a note, published in 1853, to the original article, which had appeared in the *Edinburgh Review* for July 1832, where it is shown that the dangers which are to be apprehended in the practice of medicine arise, in Sir William Hamilton's opinion, from the illiterate rashness of its practitioners, for he transfers to his pages, with very evident satisfaction, the statement of Dr. Gregory:—"I think it more than possible that in fifty or a hundred years the business of physician will not be regarded, even in England, as either a learned or a liberal profession." If the medical faculty of the University of Edinburgh had in any measure justly laid itself open to the charge of hastening the decadence of learning in the profession, it will be admitted by every dispassionate inquirer that the

statutes and regulations of that University relative to degrees in medicine, entitle it, at the present time, to be regarded as in the van of those bodies which are striving for the honour and advance of the medical profession. It is, indeed, impossible to read the animadversions of Sir William Hamilton without coming to the conclusion that learning in the practitioners of medicine, by which he evidently understood general culture, and, in particular, classical attainments, was, in his opinion, the great desideratum. Between learning of the nature referred to, and usefulness in medicine, as dependent upon ample professional qualifications, there is really nothing antagonistic. Not a few of the most distinguished men in the profession in quite recent times have been accomplished scholars. But, while this holds true, let it be distinctly understood that learning of the kind in question is not supreme: it is secondary in importance to ability in the healing art. I make bold to say that not a few physicians, with no pretension whatever to learning, have served their generation well, and have done much to recommend the profession they zealously cultivated, if they cannot be said to have adorned it. If, therefore, it were necessary to decide between the claims of medicine as a learned or so-called liberal profession and as a useful art, the preference must be awarded to the latter. Let us be thankful, however, that no such issue is before us, medicine is a liberal

profession, and will, doubtless, continue to be so, although the diffusion throughout its ranks of polite learning may have become diminished, a result which is to be in no small measure attributed to the very great enlargement which has taken place in all that is proper to medicine itself. Think of the rapid advances which have been made during the last thirty years in such departments of medicine as animal chemistry, physiology, pathology, and psychology, and then consider how limited is the time at the disposal of him who is expected to acquire at least a competent knowledge of these sciences, for the cultivation of other subjects, however elevating and attractive. That there exists nothing hostile in the study of medicine as now pursued, to distinction in other walks, is evident from the circumstance that members of our profession, in no way favourably placed for the study, have achieved distinction in scholarship. Look at the career of the late Francis Adams, toiling as a country surgeon in Aberdeenshire, and yet distinguished as the translator of Hippocrates, Aretæus, and Paulus Ægineta. Who can fail to sympathise with the feelings of that accomplished man when, in drawing his *magnum opus* to a close, he thus expressed himself: "I shall conclude this argument and my present task by quoting the memorable words in which Cicero apologises for his having spent a certain portion of his time in the cultivation of elegant literature and of philosophy, leaving

the reader to apply the same in the case of Hippocrates, and I may be permitted to add, in that of the humble editor of the present volume, who trusts he shall not be set down as an idle and unprofitable practitioner of the art because he has found leisure amidst the turmoil and distraction of a professional life, to communicate to his countrymen the important opinions contained in the genuine remains of the Coan sage."

It has been my happy lot to meet with others who, although less distinguished, some indeed wholly unknown to fame, have cultivated, in circumstances quite as trying, their natural taste for classical and other learning.

"Along the cool sequester'd vale of life
They kept the noiseless tenor of their way."

In remote districts of the country, undergoing a daily round of fatigue and anxiety, which must needs try the strength both of body and mind to the very utmost, mine, moreover, has been the privilege to meet and have friendly intercourse with men, who were ably discharging the duties of their calling, and were at the same time being leant upon by the whole community in which their lot was cast, not only as the advisers in sickness, but as persons on whose counsel and judgment all reliance was to be placed.

Having formed the acquaintance of such men, I have with pride reflected on the circumstance that

the individuals who were the recipients of so much confidence, and whose friendship was so highly prized, were members of the profession to which we have the happiness to belong. It is not the least of the advantages possessed by membership of this great Association that in our annual meeting the bands of fellowship among us are apt to be greatly strengthened.

The question of Sir William Hamilton, to which reference has been made, leads us, in the first place, to a brief consideration of the practice of medicine at the period of Hippocrates.

Intimately acquainted, as Sir William Hamilton was, with the whole history of philosophy, he knew the close alliance which existed between philosophy and medicine in ancient times. The most renowned philosophers, antecedent to and contemporaneous with Hippocrates, applied themselves to the study of medicine. Numerous are the references to medicine in the writings of these philosophers. Take, for example, the following passage from the *Phædrus* of Plato, in which not only is the relation referred to, but the name of Hippocrates is introduced.

Socrates remarks : Rhetoric is like medicine.

Phædrus. How is that ?

Socrates. Why, because medicine has to define the nature of the body, and rhetoric of the soul, if you would proceed not empirically but scientifically ; in the one case, to impart health and strength by

giving medicine and food ; in the other, to implant the conviction which you require by the right use of the words and principles.

Phædrus. You are probably right in that.

Socrates. And do you think that you can know the nature of the soul intelligently without knowing the nature of the whole ?

Phædrus. Hippocrates the Asclepiad says that this is the only method of procedure by which the nature of the body can be understood.

Socrates. Yes, friend, and he says truly. Still, we ought not to be content with the name of Hippocrates, but to examine and see whether he has reason on his side.

Phædrus. True.

Socrates. Then, consider what this is which Hippocrates says, and which right reason says about this or any other nature.*

But, while occupied with the study of medicine and engaged in speculations as to the phenomena of disease, it is in the highest degree improbable that these philosophers ever practised the healing art. It is, indeed, worthy of remark that in subsequent, although still ancient, times, the intimate connection which had subsisted between philosophy and medicine was not regarded as favourable to the growth of the latter, and the share he had in effecting their divorce-

* *The Dialogues of Plato*, by B. Jowett, M.A., vol. i., page 605.

ment is held by Celsus as a reason for eulogising Hippocrates. "Hujus autem, ut quidam crediderunt, discipulus Hippocrates Cous, primus quidem ex omnibus memoria dignis, ab studio sapientiæ disciplinam hanc separavit, vir et arte et facundia insignis" (*De Medicina*, liber primus). Medicine, however, had been cultivated after a fashion long antecedent to the birthtime of philosophy. The doctor-priests of the Grecian temples, or Asclepiadæ, had acknowledged Æsculapius as its origin. The Asclepia, or temples, were erected in many parts of Greece, were ruled by the Asclepiadæ, and used in a manner not very unlike that in which hospitals are employed in modern times. To them the sick resorted for advice and cure. In one of the most distinguished of these temples, namely, that of Cos, built on the island of the same name, one of the Sporades, a group of scattered islands, as their appellation denotes, in the Ægean Sea, off the island of Crete and west coast of Asia Minor, Hippocrates, inheriting a recognised position, acted as an Æsculapian priest. He had been born, in all probability, in the four hundred and sixtieth year before the birth of Christ. But Hippocrates had not only the advantage of the most favourable study in the Asclepion of Cos; we know, on excellent authority that, under the direction of Herodicus of Selymbria in Thrace, he became intimately acquainted with the practice then pursued in the gymnasia, while, through

the instructions of Gorgias and Democritus, the former of Leontini in Sicily, the latter of Abdera in Thrace, and himself illustrious as the originator of the doctrine of atoms, he became thoroughly versed in the literature and philosophy of the age.

The foundation of the practice of Hippocrates, with which we are now more immediately concerned, was experience; but this experience of Hippocrates was rational in character, not a mere blind or misguided empiricism. No one could be more convinced of the fallaciousness of a blind empiricism than he was, and his condemnation of it may be recognised in the earliest, the best known, and, perhaps, the grandest of all the Hippocratic aphorisms, “*ἡ πειρὰ σφαλερὴ, ἡ κρίσις χαλεπή,*” “*experimentum periculosum, judicium difficile.*” Hippocrates believed in the existence of a principle, a spiritual essence, the preserver of all things in nature, the restorer of whatever had become disordered. The regulation and superintendence of all the actions of the system were due to this principle, to which he gave the name of *Φύσις*, Nature. Thus he was led to consider that the chief duty of the physician consisted in watching the operations of Nature; endeavouring, as might be the case, to promote or restrain these, possibly in some, but these very rare instances, to counteract them. “Our natures,” he remarks, or, if not he, one of his immediate descendants, who may reasonably be supposed

to be expressing the views of the master, "our natures are the physicians of our diseases," "*Νούσων φύσις ἰητροί.*" It is in reference to this exposition of the function at once of Nature and the physician in relation to disease, that Sydenham, "the chief of English practical physicians," who in many particulars resembled the Father of Medicine, observes: "He it is whom we can never duly praise. He it is who then laid the solid and immovable foundation for the whole superstructure of medicine, when he taught that 'our natures are the physicians of our diseases.'" And again, "The great sagacity of this man had discovered that Nature by herself determines diseases and is of herself sufficient in all things against all of them." The belief which Hippocrates had in this "*vis conservatrix*," "*vis naturæ medicatrix*," would, in the first place, make him, as we know from his writings he really was, a very close observer of the operations of Nature. It would further render him cautious in regard to interference with these, and resolute in his determination, as it has been said, to have two special objects in view with regard to diseases, namely, "to do good, and to do no harm." There is, however, no ground for concluding that Hippocrates was an inert or purely expectant practitioner. On the contrary, there is abundant proof in the works which bear his name that, in limiting, as Sydenham has expressed it, "the province of medical art to the support of Nature, when she was

enfeebled, and to the coercion of her when she was outrageous," Hippocrates found occasion to be bold and decided in his method of treatment. His employment of powerful remedies is best exhibited in the instances of diseases which, according to the humoral doctrine promulgated by him, were to be relieved by the discharge of some peccant humour. Evacuants of various kinds were used with this intention, purgatives more especially, but likewise emetics, diuretics, and sudorifics. He drew blood by means of the lancet, the scarificator, and the cupping instrument, but with what careful consideration and thoughtfulness is well shown in the treatise *Περὶ Δίαιτης ὀξείων* *On the Regimen in Acute Diseases*, in which he remarks concerning the treatment of pleuritis: "But if the pain be not removed by the fomentations, we ought not to foment for a long time, for this dries the lungs and promotes suppuration; but if the pain point to the clavicle, or if there be heaviness in the arm or about the breast, or above the diaphragm, one should open the inner vein at the elbow, and not hesitate to abstract a large quantity of blood, until it becomes much redder, or, instead of being pure red, it becomes livid; for both these states occur." What forcibly strikes the reader of the passage now quoted, and of those passages which immediately precede and follow it, is, as indeed Galen among the ancient and many of the modern commentators of Hippocrates have

carefully noted, the manner in which the Father of Medicine commences with the milder means of affording relief from the pain of pleuritis, such as the employment of fomentations, the rules for the preparation and application of which, as laid down by him, are simply admirable; and only in the event of these failing to accomplish the object in view, counsels that recourse should be had to bloodletting and the use of other powerful remedies, including cathartics. In another part of the same treatise the following rule is laid down for the employment of bloodletting; "Bleed in the acute affections if the disease appear strong and the patients be in the vigour of life, and if they have strength." Surely this is a most cautious limitation of the circumstances in which the remedy is, in the mind of the writer, to be advantageously employed. In one passage, however, if not in more than one of the Hippocratic writings, there is reference made to the production of "deliquium animi," "leipothymia," or "leipopsychia," as the Greeks termed it, by bloodletting in the treatment of acute diseases. This rule, which was opposed by the ancient authorities generally, cannot be said to have been invariably acted upon by Hippocrates.

A study of the method of treatment pursued by the Father of Medicine and his immediate descendants exhibits the fact that their rules of procedure were all based on experience. He had the merit of discovering the great truth, that accurate observation in

medicine is the real foundation of all knowledge, and he proceeded in the true spirit of the inductive philosophy to generalise solely from the phenomena thus observed. It can never cease to afford material for wonder that through the genius of one man so much was accomplished, when we reflect on the circumstance that in the time of Hippocrates human anatomy had scarcely, if at all, been practised, that physiology was virtually unknown, and the use of remedial agents was almost entirely limited to articles of the vegetable kingdom, and these the indigenous plants of Greece and the neighbouring countries. To the subject of diet and regimen, however, Hippocrates paid the greatest attention. In the Hippocratic writings, there occur terms which exactly correspond with those we so frequently employ: full, ordinary, and low diet. In the treatise *Περὶ Ἀγμῶν*, the following passage occurs: “A diet slightly restricted will be sufficient in those cases in which there was no external wound at first, or when the bone does not protrude; but one should live rather sparingly until the tenth day, as being now deprived of exercise; and tender articles of food should be used, such as moderately loosen the bowels; but one should abstain altogether from flesh and wine, and then by degrees resume a more nourishing diet.” And so, not to multiply quotations, in the treatise already referred to, and in *Ἀφορισμοί*, there are many interesting and instructive suggestions to be found

regarding the administration of food and wine. It is sufficient, in passing, to make a brief reference to the paramount importance Hippocrates attached to the doctrine of crisis, and to the bearing which this had on the treatment of diseases. The doctrine of crisis, indeed, was an essential part of his system of humorism, and had in consequence an intimate connection with the method of treatment he pursued. Critical events were evacuations of different kinds, occurring chiefly by the skin, bowels, and kidneys.

With the views he entertained as to crisis, there is further intimately blended the so-called Hippocratic doctrine of critical days. Galen expressly affirms that Hippocrates was the first author who treated of these ; but, whether this be true or not, we know that he attached very considerable importance to the doctrine. "Fevers," he remarks, "come to a crisis on the same days as to number on which men recover and die." It was the particular attention given by Hippocrates to the tendency manifested by diseases to recovery, or, on the other hand, to an unfavourable termination, also to the occurrence of evacuations or of crises in their course that led to the remarkable care with which he studied the whole subject of prognosis. There is no more interesting or valuable work in the whole Hippocratic collection than the one entitled *Προγνωστικόν*, *Prænotiones*, *Prognostics*, and happily concerning its authenticity, as the undoubtedly genuine

work of the Father of Medicine himself, there has never been any question.

Again, we should be doing serious injustice to the Father of Medicine were we not to notice, and that in terms of the very highest commendation, the profound sagacity exhibited by him in the observation of the influence of external agents on man in health, and on disease. This is fully exhibited in the treatise *περὶ Ἀερίων, Ὕδαρων, Τοπῶν*, in which the operation of the atmosphere, of particular seasons, situation and dwellings of the people, in the production of health and diseases of different kinds is discussed. Dr. Adams says of it that "it relates to a subject of commanding interest, and deserves to be carefully studied, as containing the oldest exposition which we possess of the opinions entertained by an original and enlightened mind on many important questions connected with public hygiene and political economy, two sciences which of late years have commanded a large amount of professional attention." Since this passage was written by Dr. Adams, greatly increased interest has been awakened in these subjects. I venture to affirm that the most enlightened inquirer concerning public health, be he legislator or physician, will find much to instruct him in the pages of Hippocrates.

The narration of individual cases of disease commenced with Hippocrates; he may, indeed, be said to have been the originator of the clinical study of medi-

cine. By way of comparison between ancient and modern medicine, some clinical observations of Hippocrates may be quoted in the first place, and thereafter certain passages cited from a modern clinical lecture not unworthy of being placed alongside of the former. In the first book of the *Epidemics*, 'Επιδημίων, α, it is thus written: "Philiscus, who dwelt near the wall, was laid up. On the first day, fever acute; he perspired; night very disturbed. Second day, aggravation of symptoms; in the evening, an injection procured a good stool; night quiet. On the morning of the third day, and up to noon, appeared free from pain; but in the evening, acute fever, with perspiration; thirst, tongue dry; passed black urine; night disturbed; he did not sleep at all; his mind wandered on all subjects. On the fourth day, general paroxysms; urine black; night more endurable; urine of improved colour. On the fifth day, about noon, a little blood escaped from the nostrils; urine varied in appearance, with thready clouds resembling semen irregularly suspended in it. The urine did not deposit. A suppository caused passage of some feculent matter with wind. Night distressing; little sleep; talkativeness; delirium; extremities very cold, and could not be warmed; the patient voided black urine; he rested a little towards daybreak; lost speech; had a cold sweat; extremities livid. About the middle of the sixth day he died. The respiration was throughout large and rare, like

that of a person who required to be reminded to breathe. The spleen was swollen, and formed a roundish tumour. The perspiration continued to be cold till the end; the paroxysms were on even days." It is to the description here given of the patient's breathing that I wish particularly to call attention. The words employed by Hippocrates are "Τούτω πνεῦμα διὰ τέλους ἀραιὸν μέγα." Galen's commentary on the passage justifies the rendering which has been adopted. Further, we know that the word ἀραιός, when used by Hippocrates, whether in reference to the respiration or the pulse, invariably signifies "infrequent," "few in number," "with intervals." Before offering a few observations on this clinical history, I shall give an extract, or rather extracts, from a case recently recorded by Dr. Laycock.* "J. O'H., aged 56, labourer, admitted to hospital November 18th, 1863. No family history obtainable. Previously to admission, was employed in sinking a well, which kept him constantly wet; he has not been a temperate man, but enjoyed good health up to four days before his admission. On that day, he complained of pain in the chest and some shortness of breath. He attributed this to overwork, but it was so severe as to oblige him to leave off work, and he consequently went to bed. Next day, felt better; but the day after he felt very giddy, and was forced to return to bed. On the 17th,

* *Dublin Journal of Medical Science*, 1873.

about 7 A.M., his wife found him lying half out of bed and passing urine on the floor; when spoken to, said his left arm felt very heavy, and he could not move it, and that the left leg was the same; he also complained of headache, frontal and temporal, but not severe." There follows a detailed and interesting statement regarding the patient's condition on admission to the Royal Infirmary. I quote the account of his breathing: "Breathing appears calm for the most part, with frequent intervals of accelerated and laborious breathing. When the act of respiration is suspended, the fact of coughing once or twice does not seem to bring it back; but, if the patient is roused and made to speak, respiration is resumed. The cessation appears to be quite regular in point of time, occupying generally about thirty seconds, and respiration then continues for about twenty-five respirations. The heart's action at such times was accelerated and tumultuous." The progress of the case is recorded as follows: "On December 1st, complained of pain in the right side; friction sounds detected; coughs slightly; no expectoration; delirium occurred during the succeeding night; the following morning, said he was better, and the ascending and descending respiration was not observed; friction heard in the right infra-axillary region; the right side moved but slightly in respiration, which was chiefly diaphragmatic; dulness was perceived over the right base posteriorly, where

also friction and fine crepitation were heard. On the 3d December the respiratory phenomena were less marked; but on the 4th weeping was observed in the afternoon, although the patient was cheerful about himself, and the peculiar breathing was again manifested. On the 5th heart's action was calmer; œdema of the left hand commenced. On the 9th œdema of the lower part of the left thigh; foot and lower part of leg very cold. On the 12th a fresh pulmonary attack commenced, the left pleura now being the seat. During the three following days there was considerable delirium; he was very troublesome at night, crying out and groaning. On the evening of the 16th he had more frequent paroxysms of apnoea; the cardiac action was hurried, about 130 per minute, but regular. On the 18th the symptoms were found to have subsided somewhat; but on the evening of that day dyspnoea came on, with greatly increased feebleness; pulse about 60, and irregular; respirations hurried and forcible, from 45 to 50 per minute. The pulmonary symptoms had become greatly aggravated, and the patient died about one o'clock on the morning of the 20th. *Post mortem* was not permitted."

The case of Philiscus, as recorded by Hippocrates, is one of great interest. The occurrence of accession of fever towards the evening of the third day, freedom from fever having been noted in the morning, with supervention of several unfavourable symptoms, in

particular great thirst, dry condition of the tongue, black urine, delirium, and coldness of the extremities, led Galen, in his commentary, to remark that the fatal issue of the disease might have been anticipated. It is, however, in respect to the peculiar character of the breathing that the case of Philiscus acquires its chief interest, and it is in this particular that a resemblance is to be found between the ancient and the modern clinical examples now quoted. The attention of Hippocrates had been arrested by the peculiar character of the breathing which existed throughout the fatal illness of Philiscus. Surely it is a matter of interest and for reflection, that the respiration described by Hippocrates as ἀραιὴν μέγα, "rare and large," and to which Galen has attached the meaning "like a person who forgot for a time the need of breathing, and then suddenly remembered," or "the respiration throughout, like that of a person recollecting himself, was rare and large," has attracted great attention in quite recent times. The expression used by French writers, "besoin de respirer," corresponds in some measure to the meaning which is sought to be conveyed by the Greek words. In Latin, the rendering is, "Spiratio huic perpetuo rara et magna fuit." Daremberg, the learned French editor of Hippocrates, thus translates the passage : "La respiration fût constamment grande, rare comme chez quelqu'un qui ne respire que par souvenir." The relation of this peculiar character of

the breathing with which, under the name "ascending and descending inspiration" of the eminent Dublin physician Dr. Stokes, the profession is now familiar, to lesion of the nervous system, was, of course, unknown to Hippocrates, and for many subsequent ages could not be known to those who were ignorant alike of anatomy and physiology. In recent times it has been described by the late Dr. Cheyne of Dublin. "For several days," wrote Dr. Cheyne, in 1816, in his account of a patient, aged 60, who had fatty degeneration of the heart, with irregular and intermittent pulse, and whose death was due to apoplexy, "his breathing was irregular; it would cease for a quarter of a minute, then it would become perceptible, though very low, then by degrees it became heavy and quick, and then it would gradually cease again. This revolution in the state of his breathing occupied about a minute, during which there were about thirty acts of respiration." Subsequently, Dr. Stokes connected the peculiar respiration with a weakened state of the heart, "a phenomenon to be looked for in many cases of fatty degeneration." I have never seen it, remarks the same authority, except in examples of that disease. In his description of it, Dr. Stokes observes: "It consists in the occurrence of a series of inspirations, increasing to a maximum, and then declining in force and length until a state of apparent apnoea is established. In this condition the patient may remain for

such a length of time as to make his attendants believe that he is dead, when a low inspiration, followed by one more decided, marks the commencement of a new ascending and descending series of inspiration. The symptom, as occurring in its highest degree, I have only seen during a few weeks previous to the death of a patient. I do not know any more remarkable or characteristic phenomena than those presented in this condition, whether we view the long continued cessation of the breathing, yet without any suffering on the part of the patient, or the maximum point of the series of inspirations, when the head is thrown back, the shoulders raised, and every muscle of inspiration thrown into the most violent action ; yet all this without any *r  le* or sign of mechanical obstruction." Dr. Stokes refers to the fact of the sighing respiration, which is closely allied to the more formidable ascending and descending respiration, being observed in persons who are labouring under certain forms of gastric and hepatic derangement, and in connection with undeveloped gout, and likewise to the significant fact of Laennec having described a form of asthma with puerile respiration, while the illustrious French physician attributed the malady to some special modification of nervous influence.*

* *Cependant le malade   touffe ; et, comme nous venons de le dire, il aurait besoin d'une respiration plus   tendue que celle que permet son organisation, ou en d'autres termes, la expiration est*

Dr. Little of Dublin, in an able paper published in 1868, while allying the peculiar breathing, as Dr. Stokes had done, with organic disease of the heart, does not admit its special connection with fatty degeneration, but believes it to accompany atheroma of the aorta, valvular lesions, and hypertrophy, as well as dilatation of the left ventricle. Dr. Little has suggested as a theory of its causation, that, in consequence of the existence of one or other of the lesions mentioned, there is an unequal action of the two ventricles. Consequently, the left ventricle is unable to propel the aerated blood, and stops now and then. This blood, therefore, remains in the lungs, pulmonary veins, and left auricle; and, as it has already been fully oxygenated, it no longer stimulates the respiratory centre through the vagus. Thus, the venous blood which is requisite to excite the vagus branches is not supplied, consequently respiration ceases, and the breathing takes on this irregular action. By degrees, the contractions of the ventricle partially free the auricle and pulmonary veins; venous blood is again sent to the lungs, which stimu-

très-parfaite, le besoin seul de respire est augmenté. Ce n'est pas dans le poumon qu'il faut chercher la cause de la maladie; et lors même qu'adoptant en entier la théorie chimique de la respiration, on voudrait supposer qu'un besoin extraordinaire d'oxygénation du sang est la cause de la dyspnée, il faudrait encore remonter plus haut et reconnaître que le mal est dans l'innervation même.

lates the filaments of the pneumogastric, and causes respiration to begin. Dr. Laycock, in his valuable contribution to the pathology of the ascending and descending respiration, or, as he terms it, "recurrent brief apnœa," from which I have already quoted, while offering objections to the completeness of the explanation according to Dr. Little's ingenious theory, does not hesitate to concur in the opinion that the vagus system is involved.

It is worthy of remark that, in the case of Philiscus, detailed by Hippocrates, sleeplessness was a notable feature; and, although the febrile condition under which the patient laboured may be the explanation of this symptom, it is at least as reasonable to suppose that the neurosis of the vagus on which the peculiarity of his breathing depended was its cause.

Laennec, the illustrious French physician, the modern discoverer of auscultation, he to whom we are indebted for the introduction of auscultation, and for the great light which his discovery shed on the diagnosis and treatment of diseases of the chest, has rendered due credit to Hippocrates. To the Father of Medicine indeed, and to Aretæus, among the ancients, Laennec confesses that he was alone indebted for any information on the subject, which he has so signally made his own. He expressly states that Hippocrates practised immediate auscultation. "Hippocrate avait tenté l'auscultation immédiate;" and, in

proof of his having made trial of this means of diagnosis, he refers to the well known passage in the treatise *Περὶ Νοσῶν, τὸ Δευτέρον, De Morbis, Liber Secundus*, a work which there is good reason for believing, although not composed by Hippocrates himself, was written either by one or more of his contemporaries or by some among his immediate descendants in the school of Cos, in which it is made clear that Hippocrates fell into error in supposing his ability to distinguish between the presence of water and of pus in the chest, by the peculiar sound heard on applying the ear. It is in the same chapter, and in close relation to the same subject, that Laennec makes the remarkable statement—a statement which cannot be read without feelings of admiration for the candour and modesty of that distinguished man—that he had read the passage in Hippocrates many years before the commencement of certain experiments in physics, which suggested to him the idea of mediate auscultation, but he never entertained the idea of repeating the experiment of Hippocrates; it passed entirely into forgetfulness; he simply regarded it as one of the errors into which that great man had fallen. But the passage reverted to his mind when he commenced his researches; and he felt surprise that its consideration had not proved suggestive to some readers. The error made by Hippocrates, Laennec further remarks, might have led him to the discovery of many valuable

truths. He concludes a remarkable passage in the following words: "But Hippocrates stopped with an incorrect observation, and his successors overlooked its import. This, at first sight, may appear surprising; nevertheless, nothing is more common. No man is permitted to embrace all the relations and consequences of the most simple fact; and the secrets of Nature are more frequently disclosed by accidental circumstances than they are wrested by scientific efforts."*

Under the designation of Hippocratic succussion, we possess, as is well known, a means of physical exploration of the chest, which was practised by the Father of Medicine. In the same treatise as that already referred to, the method of procedure in the use of this means is laid down. It is directed that, after the patient has been carefully washed with warm water, he is to be placed in a firm seat, and his hands held by an assistant, the physician meantime, taking him by the shoulders, shakes him, and attentively listens in order to determine on which side of the chest a sound is occasioned. Further, the rules for the treatment of empyema by operation are given with precision; it is directed that recourse is not to be had to paracentesis before the fifteenth day from the commencement of the effusion; where pain is chiefly felt and swelling is most conspicuous, the

* *De l'Auscultation Médiate*, Première Partie, Chapitre iii.

opening is to be made, while a preliminary incision through the integuments precedes the penetration of the pleura effected by a sharper and more pointed instrument, protected by a piece of cloth. In some instances, it is mentioned, the perforation of the thoracic parietes was made, not through an intercostal space but through a rib, a plan revived in recent times by M. Reybard. When a sufficient quantity of pus has been permitted to flow, the wound is to be closed by means of a portion of linen cloth attached to a thread. Daily a similar quantity of pus is to be evacuated. On the tenth day, when the whole of the collection has been allowed to escape, a mixture of tepid oil and wine is to be injected through the opening, for the purpose of cleansing the lung. This part of the operation is to be practised twice daily; the injection of the morning being withdrawn and replaced by a fresh quantity in the evening, and so on. At length, when the purulent fluid has become clear and thin, a metallic sound is to be introduced, the size of which is to be gradually lessened as the fluid itself diminishes; thus, the wound is permitted to cicatrise.

The interest attached to the description now quoted is heightened by a consideration of certain shrewd observations bearing on the same subject, and which occur not in the same treatise alone, but in other of the Hippocratic works, notably in the book of

Aphorisms. An empyema on the left side, the author remarks, is less dangerous than on the right. When the pus was clear, and studded more or less with sanguinolent threads, that appearance indicated the probability of a satisfactory recovery; but, on the other hand, if, on the first day of its removal, the fluid possessed a colour like the yolk of egg, while on the succeeding day it was thick, having a pale green hue, and emitting a foetid odour, it was likely that the sufferer would not recover, but shortly die. Again, the sufferers from empyema and dropsies treated by incision or by the cautery, certainly perish if the pus or water be suddenly evacuated. Everyone acquainted with the history of paracentesis thoracis knows that it dates from the period of the Father of Medicine. The dogmatic statements which are to be found in the Hippocratic writings may not all be accepted without question in the present day, but it is remarkable how much truth there is in several of these. One of the highest living authorities on diseases of the chest, Dr. Walshe, commends the precept of Hippocrates, that paracentesis should not be performed before the fifteenth day of effusion, unless the accumulation of fluid be so great as *per se* to threaten life; while he questions the accuracy of the observation made in the ancient time, and adhered to pretty closely in subsequent ages, that success is less likely to follow operations when the fluid has

been from the first purulent in character than when sero-albuminous.*

The modern history of thoracentesis is very interesting. Since the writings of Trousseau in its recommendation, and the still more powerful example of our transatlantic brethren, chiefly Dr. Bowditch, the remedy has become one commonly resorted to. In the article Pleurisy, contributed to the third volume of Dr. Reynolds's *System of Medicine*, by a physician, whose premature death the profession had recently occasion to deplore, will be found an interesting account of what Dr. Anstie called a new era in the treatment of pleurisy. The new era is, however, signalised rather by the discovery and introduction of such new instruments as the suction instrument of Dr. Wyman, so efficient in the hands of Dr. Bowditch, and the aspirator of Monsieur Dieulafoy, than by any novel suggestion regarding the treatment of the disease. If, as is not unlikely, we have recently attained to something like perfection in the diagnosis and treatment of pleurisy, a dispassionate review of the history of the disease in ancient and modern times will justify the application of the dictum of Seneca, "Multum egerunt qui ante nos fuerunt sed non peregerunt."

It would be very easy to multiply references to important and suggestive passages in the Hippocratic

* *Diseases of the Lungs*, 4th edition, page 281.

writings tending to establish yet more fully the truth of the statement that the Father of Medicine was enabled, by the exercise chiefly of his most remarkable powers of observation, to acquire a really wonderful amount of accurate information regarding the causes and progress of diseases, as well as the influence exerted by various remedies over them. Enough has, however, been stated to justify Sir William Hamilton in exalting the reputation and praise of Hippocrates. Was Sir William entitled to depreciate the medical practitioners of his own time, which he surely did when exclaiming, "Has the practice of medicine made a single step since Hippocrates?" For centuries after the Hippocratic epoch, it may truly be said that little or no advance in medicine was effected. Many learned and ingenious men no doubt did appear in the ranks of the profession, and by them the position which had been achieved for medicine by Hippocrates was, at all events, maintained. In ancient times, by far the most renowned of these was Galen, who, embracing warmly the views of Hippocrates, was the first formally to expound and then systematically to formulate the doctrine of humoralism or humorism. It might be a sufficient answer to the query of Sir William Hamilton to signalise the discovery in modern days of vaccination, and the introduction of sulphuric ether and chloroform as anæsthetics; the last mentioned, as the author of *Rab and His Friends* says, "one of God's

best gifts to his suffering children." These were unknown to Hippocrates, and surely our possession of them indicates at least one step in advance. But we are able to point to the abandonment of many remedies altogether worthless which were used in ancient times, and to the introduction, as well as much more satisfactory employment, of others. While, owing to the remarkable and altogether indisputable progress which has been made in the prosecution, first of all, of the study of anatomy, then of physiology, and subsequently of pathology, we are justly entitled to conclude that the more advanced our knowledge of the minute structure of the body becomes, the more extensive our acquaintance with the function and uses of its several parts, and the more refined our understanding of the various morbid processes by which these are altered and destroyed, so much the more thorough and reliable will be our application and adaptation of the means of cure to the treatment of diseases. Any scientific practice of medicine before the physician had been able to acquaint himself with human anatomy was not to be expected; and it is truly marvellous that Hippocrates, Aretæus, Galen, and the Arabian physicians, notably Rhazes, were able to achieve so much, and to hand down to posterity a body of well-observed facts and careful deductions from these facts, wearing so much the aspect of science.

Medicine can, however, be said to have started on

a scientific basis, when Mundinus, early in the fourteenth century, applied himself with diligence to the dissection of the human body, and published a treatise on anatomy, *Anatome Omnium Humani Corporis Interiorum Membrorum*, which, till the middle of the sixteenth century, was the recognised text-book of the schools. The statutes of the University of Padua prescribed that all anatomical lecturers were to adhere to the literal text of the Bologna professor. Mundinus died in 1326,* universally respected; and no advances in anatomical knowledge were made after his time till Berenger of Carpi published, in 1521, a commentary upon Mundinus. There succeeded Berenger, Vido Vidius, Jacob Sylvius, and the renowned Flemish anatomist Andreas Vesalius. Of the last named, Hallam remarks that "if he was not quite to anatomy what Copernicus was to astronomy, he has yet been said, a little hyperbolically, to have discovered a new world."† He was the first anatomist who ventured to emancipate himself, and that thoroughly, from the trammels of Galen, who, up to that time, had been regarded with an altogether blind veneration. Fallopius and Eustachius, two well-known names, names not to be forgotten by any one at all acquainted with

* Mundinus sagt John Adelphus in der von ihm besorgten Strassburger Ausgabe vom Jahre 1513, "quem omnis studentium universitas colit ac venerat ut deum."—Haeser, *Lehrbuch der Geschichte der Medicin*.

† *Literary History*, vol. i., page 467.

anatomy, were the contemporaries, although younger, of Vesalius ; and of the same period, or shortly subsequent, were Realdus Columbus, Arantius, and Fabricius ab Aquapendente, the discoverer of the valves in the veins, and the instructor of our own immortal Harvey. The splendid discovery of the circulation of the blood was followed by that of the absorbent system, in which Asellius, a professor at Pavia, Rudbeck, a professor at Upsala, and Bartholin, a Dane, were chiefly concerned ; while to Pecquet, a professor at Montpellier, belongs the credit of describing the thoracic duct and its uses. Other important anatomical discoveries, and discoveries also in physiology, were being made simultaneously, or shortly thereafter, in connection with which the names of Malpighi, Glisson, Wharton, Highmore, Richard Lower, Leeuwenhoek, Ruysch, Valsalva, and many others, start up. The most eminent of the pupils of Valsalva was the distinguished Morgagni, who, following the plan pursued by Bonnet in his *Sepulchretum Anatomicum*, first published at Geneva, the place of his birth, in 1679, described by Haller as “immortale opus,” became himself professor in the University of Padua, and was the founder of pathological anatomy.* His works *Adversaria Anatomica*, and still more his celebrated treatise *De Sedibus et Causis Morborum*

* *Der Begründer der Neueren Pathologischen Anatomie*, Haeser zeite 654.

per Anatomiam Indagatis, immensely advanced his favourite science.

While chemistry, about the same time, was advancing towards the dignity of a science, chiefly through the genius of our distinguished countryman the Honourable Robert Boyle, there arose the sect of the so-called chemical physicians. Of this sect, the earliest was François Deleboe Sylvius,* who was born at Hanau in Flanders, in 1614, and, after a time, became professor of the practice of medicine at Leyden. The chemical theory of medicine had, however, passed from Paracelsus, who was born towards the close of the fifteenth century, through Van Helmont, by more than eighty years his junior, to Sylvius. The leading principles of the chemiatic physicians was that diseases owed their origin to derangement in a process of fermentation, which was constantly at work in the human body. While most of the maladies which were produced in this way arose from excess of acid, some were regarded as of alkaline origin. One eminent English physician embraced the doctrine of Sylvius. Thomas Willis was born in 1621, and in 1659 published his celebrated treatise, entitled *Diatribæ duæ Medico-Philosophicæ; quarum prior agit de Fermentatione altera de Febris*. The object of this work was to prove

* *Der berühmteste Vertreter der Iatrochemischen Schule.* Haeser, zeite 571.

that, in every organ of the body, there existed its own special fermentation, and that disease of every kind resulted from the disturbance of these fermentative processes. Willis was one of the earliest members of the Royal Society, and left behind him the character of an orthodox, pious, and charitable physician.* It is recorded of Dr. Willis that, being consulted regarding the delicate condition of the children of the Duke of York, afterwards James II., he spoke his mind freely, and thereby gave great offence. Bishop Burnet has related that "Willis, the great physician, being called to consult for one of his, the Duke of York's sons, gave his opinion in the words, 'mala stamina vitæ,' which gave such offence that he was never called for afterwards." The reputation of Willis, unquestionably a very able man, has been obscured by that of another English physician, his junior by only three years. The physician in question was Thomas Sydenham, "whose character," as Dr. John Brown felicitously remarks in that delightful essay of his, *Locke and Sydenham*, "is as beautiful and as genuinely English as his name." He was born in Winford Eagle, in Dorsetshire, in 1624. A parallel has been drawn between Hippocrates and Sydenham by more than one modern writer. *Wiederherstellung des Hippokratismus durch*

* The Roll of the Royal College of Physicians of London, by William Munk, M.D., vol. i., page 524.

Thomas Sydenham, is the title of Haeser's, the erudite German historian of medicine, chapter 460, and a very instructive one it is, on the life and writings of the English physician. He has frequently been called the English Hippocrates, and, in truth, the appellation is deserved; for, like the illustrious Greek physician, the great aim he set before him was the cure of disease, and, although possessing a mind which delighted in speculative inquiry, he never permitted the theories he formed and ably defended to interfere with his treatment. That was based on a rational empiricism, such as we have seen in the instance of Hippocrates: he carefully watched the operation of the remedies he employed, and from these he drew the indications for further guidance. Sydenham was humoral in his pathology, and he further agreed with Hippocrates in the doctrine of crisis, and the subsidiary views as to coction and crasis. We find him frequently referring to the Father of Medicine, as, for example, when he inquires what is gout? It is a provision of Nature to purify the blood of old men, and to purge the deep parts of the body, such at least is the language of Hippocrates. The same may be said of all other diseases, fully formed, and "That practice, and that alone, will do good which elicits the indications of cure out of the phenomena of the disease itself. This made Hippocrates divine." It was from Sydenham that the school of empirical physicians in

England sprung—a term to be used, as Hallam has expressed it, “in a good sense,” as denoting the regard its disciples had to observation and experience ~~or~~ to the Baconian principles of philosophy.

Another school of medicine had arisen in Italy through the instrumentality of Giovanni Alfonso Borelli, a profound mathematician, who endeavoured to explain the operation of the various functions of the body on mechanical principles. His views and principles were, through the excessive zeal of his pupils, carried beyond their legitimate length. Of these, Lorenzo Bellini, of Florence and Pisa, was the chief. There were other eminent adherents of the iatromathematical school in Italy; while Pitcairn, Freind, and Mead, in their time, were in this country attached to it; and it secured the sympathies of the illustrious nosologist François Boissier de Sauvages in France, in the eighteenth century.

To the chemiatic and iatro-mathematical schools there succeeded a third, of which Van Helmont was the founder. Embracing the views of the former to a certain extent, he made this important addition, that all the changes occurring in the body, whether arising spontaneously or produced by remedies, are determined by a specific agent inherent in the living system, to which he gave the name of Archeus. This archeus explained, in Van Helmont's opinion, all physiological actions, and accounted for the mainten-

ance of health as well as the occurrence of disease. Founding on the views promulgated by Van Helmont, although widely differing from him, came the earliest of the three distinguished men to whom a brief reference was made at the commencement of this Address. Rejecting the doctrines of the chemical and mathematical physicians, Stahl concentrated attention on what he denominated vital actions. He, too, referred these actions to a dominating principle; and the *Anima* of Stahl—so he named it—resembles, in some measure at least, the *Archeus* of Van Helmont. To Stahl belongs the great merit of having pointed out that, contrary to the prevalent opinions of the schools, the operations of the animal economy cannot be explained by either chemical or mechanical laws; that there exists something over and above these; and that something is of the nature of vital action. The *anima* of Stahl, however, was a hypothetical principle, and he signally failed to gain for his theory any general support. Hoffmann, his distinguished colleague in the University of Halle, and his rival, conferred a lasting benefit on science by pointing out that the actions which were ascribed by Stahl to the government of his “*anima*” were in reality determined by nervous influence. “It was reserved for Hoffmann,” says Dr. John Thomson, “to take a comprehensive view of the nervous system, not only as the organ of sense and motion, but also as the common centre by which all

the different parts of the animal economy are connected together, and through which they mutually influence each other." Facts, and many of these most important in their nature, regarding the nervous system, had been recorded before the time of Hoffmann. The renowned professors in the early Alexandrian school, Herophilus, and Erasistratus, and Galen, with others among the ancients, Willis, Vieussens, Mayow, Baglivi, and Pacchioni, much nearer his own day, had laid the foundation for the reasoning of Hoffmann; but, as Cullen has observed, "he was the first who gave any tolerably simple and clear system on the subject, or pointed out any extensive application of it to the explanation of diseases." There is little need for reminding you of the triumphant discoveries in the nervous system which have been made since the time of Hoffmann—such discoveries as have rendered the names of Charles Bell and Marshall Hall in particular, but many others in lesser degree, famous. In no department of pathological inquiry is there at the present time exhibited a greater amount of zeal, or are important facts being more frequently brought to light, than in that pertaining to the nervous system. How signal our advance in treatment also, as determined by that which can alone with any certainty determine treatment, a sound diagnosis! We can distinguish between functional and organic diseases of the brain, spinal cord, and nerves; and use our remedies in a

way of which not only the ancient physicians, but many among the moderns, could not have dreamt.

The names of Stahl and Hoffmann, the German professors in Halle, of whom a few words have been said, are inseparably linked with that of the illustrious Dutch professor in the University of Leyden, Hermann Boerhaave. The aim of Boerhaave was essentially eclectic ; he culled from the writings of his predecessors all that was valuable, and with these and the results of his own extended observation endeavoured to erect a system of medicine. His system was faulty in ascribing too little importance to the influence exerted by the brain and nervous system generally over the animal functions. The pathology of Boerhaave was as defective as his physiology ; his explanations of morbid phenomena were more applicable to the body considered as an inert hydraulic machine, than as an organised living and sentient system. Intellectually and morally distinguished, few greater men than Boerhaave have adorned our profession in any age or country. After his decease, his reputation, which as a living teacher had been of the most exalted description, rather increased than declined. This result was due in great measure to the publication of commentaries on his works by two of his most distinguished pupils, Haller and Van Swieten. The former of these is justly considered as the father of modern physiology. The magnificent researches of

Haller regarding development, growth of bone, and the circulation, deserve the praise and gratitude of posterity not more than the impulse of his ardent spirit and example in laborious inquiry, by which the zeal of his associates and successors was kindled. Of Haller's powerful opponent in the controversy regarding irritability and sensibility—Dr. Whytt—I can only make mention. Contemporaneously with Haller, and conferring benefits on the practice of medicine resembling those which Haller rendered to physiology, was William Cullen. A very erroneous impression of this great Scotch teacher has been entertained by many ; more particularly, however, by foreigners. By such Cullen has been called a purely speculative physician. The condemnation of this opinion is readily supplied by his own words: "There is nothing," he observes, "I desire so much as that every disease we treat here should be a matter of experience to you ; so that you must not be surprised that I use only one remedy when I might apply two or three ; for in using a multiplicity of remedies, when a cure does succeed, it is not easy to perceive which is the most effectual. But I wish that you may always have some opportunity of judging with regard to their proper effects." Again, he says: "Every wise physician is a dogmatist; but a dogmatical physician is one of the most absurd animals that lives. We say he is a dogmatist in physic who employs his reason, and, from some

acquaintance with the nature of the human body, thinks he can throw some light upon diseases, and ascertain the proper methods of cure; and I have known none who were not dogmatists, except those who seemed to be incapable of reasoning, or who were too lazy for it. On the other hand, I call him a dogmatical physician who is very ready to assume opinions, to be prejudiced in favour of them, and to retain and assert very tenaciously, and with too much confidence, the opinions or prejudices which he has already taken up in common life, or in the study of the sciences. Now, I profess to be a dogmatist, but I should be sorry if any person thought me dogmatical; for there are but few theoretical opinions which I have received or offered to communicate with regard to disease, concerning which I am not ready to doubt, and to admit grounds for doubting, as soon as they are offered to me. I know there are no universal rules in the practice of physic; but there are general rules, which all admit of, with more or fewer exceptions, in theory and practice." The foundation of the practice of physic was expressly stated by Cullen to lie in fact and experience. "All our knowledge of Nature consists," he says, "in experience."

To Cullen we are largely indebted for the introduction into general use by medical men in this country of such remedies as the acid tartrate of potash, tartar emetic, hyoscyamus, and James's powder.

or the pulvis antimonialis. Tartar emetic Cullen largely employed as an antiphlogistic, sometimes after bloodletting, and sometimes in place of that remedy. He had noticed something of the controstimulant action of antimony in the form of tartar emetic, described by Dr. Marryatt of Bristol in 1790, and afterwards so strongly insisted upon by Rasori, a professor in Pavia, and by others. A successor of Cullen, one of the most distinguished physicians in recent times, as he certainly was also one of the most benevolent of men, the revered Dr. Alison, who occupied the chair which you, sir, now so worthily fill, when this Association held its former meeting in Edinburgh, he, whom Dr. Stokes has recently described as "the best man I ever knew," and in so alluding to Dr. Alison may be said to have turned many hearts towards himself—for what student who knew Dr. Alison did not venerate him? and who can ever cease to cherish his memory?—when indicating the way by which, in his opinion, the further improvement in the art of medicine was likely to be effected, signalised the two following lines of inquiry:—*first*, in the discovery of specifics which may counteract the different diseased actions of which the body is susceptible, as effectually as the cinchona counteracts the intermittent fever, citric acid the scurvy, or vaccination the small-pox; and *second*, in the investigation of causes of disease, whether external or internal—*i.e.*, of the conditions under which either

the vital actions of the solids or the vital properties of the fluids of the body may become liable to deviation from their natural state. It will be readily admitted by all candid inquirers that under the latter head very signal advances have been made during the last half century. Look, for example, at the etiological investigations regarding continued fevers, and the bearing of these upon treatment, with which the names of Jenner, Stewart, Bartlett, Murchison, and Buchanan are so intimately connected. Again, consider the great advances in knowledge of parasitic diseases—the entozoa more particularly—and their appropriate treatment, for which we are largely indebted to Küchenmeister, Von Siebold, Davaine, and Cobbold. Nothing more interesting or more remarkable in the line of therapeutics has recently appeared than the wonderfully successful treatment of hydatids of the lung by the internal administration of turpentine in the hands of Dr. Bird of Melbourne, Australia.* This is a medicine in estimation of which, were time at my disposal, I could say much, having had occasion to watch its influence very closely when administered in cases of pulmonary gangrene and bronchial affections

* Dr. Bird had formerly used bromide of potassium, twenty grains, with one fluid drachm of tincture of kamela in infusion of serpentry, three times a day regularly. (*On Hydatids of the Lung*. Melbourne, 1874.) I am, however, assured by a recovered patient, that in the treatment of pulmonary hydatids, Dr. Bird now places great reliance on turpentine administered internally.

attended by copious expectoration of fetid pus. In these diseases I regard turpentine as an invaluable remedy.

Of specifics, we still possess but few ; while the desire to increase their number is not only legitimate, but is likely sooner or later to be gratified. Of the class of specifics, no remedy better deserves the name than quinine. The potent action of quinine in intermittent fevers thoroughly justifies the application to it of the term specific ; and it is to be noted that the curative action in question is to be seen not only in febrile disorders of the intermittent type, but in neuralgias which manifested a similar character. Many ingenious theories regarding the *modus operandi* of cinchona or quinine in these diseases have been advanced ; but, up to the present time, we are compelled to admit that we are entirely ignorant respecting the method of action of a medicine in whose power we justly place the very highest confidence. The remarkable effects of quinine in reducing the temperature in pyrexiaë, and the still more remarkable influence of cold in the same way in hyperpyrexiaë, of which Dr. Wilson Fox has given some happy illustrations, are noteworthy facts in the recent history of therapeutics.

A remedy of marvellous power and usefulness, the virtues of which we are still only learning, is the iodide of potassium. This medicine was prepared soon after

the discovery of iodine by Courtois in 1812, and has been chiefly employed as a deobstruent, alterative, and diuretic. I am satisfied that the diuretic properties of iodide of potassium deserve to be more widely recognised than is generally the case. Its specific action is seen in syphilitic periostitis: for truly the rapidity and completeness with which pain and swelling decline and disappear in instances of enlargements over the tibiæ and other bones in cases of secondary syphilis, are not less remarkable than the readiness with which an attack of intermittent fever or neuralgia yields to quinine. The late Dr. Todd of London remarked: "If there is anything in addition to quinine which deserves the name of a specific, it is the iodide of potassium in syphilitic periostitis." Another remarkable action of this medicine is in aortic aneurism. Iodide of potassium, exhibited for the most part in tolerably large doses, in this terrible disease exerts a wonderful influence, not only in relieving the neuralgic pains, which are frequently so harassing, but in subduing the local pressure occasioned by encroachments of the aneurism, and in leading, apparently, to firm coagulation within the sac.

It is in the treatment of thoracic aneurism by iodide of potassium that physicians have learned the very remarkable tolerance of the drug manifested by sufferers from that disease. No reasonable suggestion has hitherto been offered regarding the *modus operandi* of

iodide of potassium in aneurism. The influence it exerts on the progress of aneurism appears to have been discovered not only empirically, but by the merest hazard, writes Dr. Walshe, "in this point of view, the story of all our really valuable medicines is simply repeated." * The names of Bouillaud, Nélaton, and Chuckerbutty are specially connected with the early employment of the iodide of potassium in the treatment of aneurism ; while the profession is largely indebted to Dr. G. W. Balfour of Edinburgh for his patient investigation into the subject. †

Twenty years ago little was known regarding the virtues of bromide of potassium. If any standard work on the materia medica of that date be consulted, it will merely be found recorded of this salt that it is diuretic and cathartic, and, like the preparations of iodine, a powerful deobstruent and alterative. Its dose, moreover, is stated in such works at from three to twelve grains thrice daily. Since then, and more particularly within the last few years, bromide of potassium has rapidly advanced in professional estimation ; and, at the present time, it may with confidence be affirmed that there are very few medicines which are more largely employed, and the use of which is attended by more signal benefits. As a calmative and hypnotic, bromide of potassium is largely confided

* *Diseases of the Heart*, 4th edition, page 512.

† *Edinburgh Medical Journal*, 1868.

in ; but its specific operation in epilepsy is of the most striking description. "It is to be demonstrated, in my opinion," writes Dr. Russell Reynolds, "that there is something specific in the action of bromide of potassium in epilepsy." And the same author observes : "Bromide of potassium is the one medicine which has, so far as I know, proved of real service in the treatment of epilepsy." My own experience of the use of bromide of potassium in epilepsy has been of the most encouraging description. I have repeatedly witnessed cures in the strictest sense result from its employment. Let me briefly refer to one such.

S. A., a bookbinder, aged 50, had for 20 years been subject to severe fits, occurring irregularly by night and by day, often attended by biting of the tongue. The usual interval between the fits has been a fortnight, and on no occasion has a longer period than six weeks elapsed. In January 1870, this patient, whose mental capacity had at that time become considerably enfeebled, so much so as to make it necessary for him to give up his business, began the bromide of potassium, and continued it for eighteen months without any pause. The dose never exceeded twenty grains thrice daily. The result of this treatment is an entire cessation of the epilepsy ; there has been no recurrence of the disease. His mental vigour has returned. He long ago resumed his occupation, and has since been busily engaged in it without any interruption.

I could multiply instances of this kind ; and so, I believe, could many practitioners who, in the treatment of epilepsy with bromide of potassium, have been mindful to adhere to the rule upon which Dr. Reynolds insists, that the remedy "should not be discontinued in the treatment of a case of epilepsy because of its apparent failure ; but that the dose should be gradually increased, and the exhibition of the drug most patiently carried on for a period of many months, or even years." Epilepsy is a disease which specially attracted the attention of the ancient physicians. It was termed νόσος ἱερὰ, the sacred disease, by the Greeks ; and Aretæus expressly mentions why the appellation sacred was given to epilepsy, "for more reasons than one," he remarks, "from the greatness of the evil, for the word ἱερός also means great, or because the cure of it is not human, but divine ; or from the notion that the disease occurred from the entrance of a demon into the man." Plato, in the *Timæus*, ascribes the use of the term sacred to the circumstance of the head or brain being the part of the body affected in epilepsy. "When the phlegm is mingled," he says, "with black bile, and dispersed about the courses of the head, which are the divinest parts of us, and disturbs them in sleep, the attack is not so severe ; but when assailing those who are awake, it is hard to be got rid of ; and being an affection of a sacred part, is most justly called sacred." Hippocrates combated the notion entertained

by his countrymen that epilepsy was peculiarly a sacred disease, one specially inflicted by the gods. In the treatise *Περὶ Ἑρῆς Νούσου*, he emphatically points out that the incomprehensible nature of the malady is no reason for concluding it to be divine ; inasmuch as many other diseases, and notably the paroxysms of intermittent fevers, are just as much above the reach of the human understanding. He believes that epilepsy, like other diseases, results from natural causes. The reader of the remarks on epilepsy in the pages of Hippocrates and Aretæus cannot fail to have his opinion of these great men enhanced ; but he also cannot fail to reach the conclusion that the moderns, understanding the nature of convulsive diseases, their connection with altered conditions of the blood, with, for example, anæmia and uræmia, their dependence at one time on central, at another on peripheral, irritation of the nervous system, are infinitely better prepared for their treatment than they were ; and this unquestionably holds true of epilepsy.

The use of the remedies we have been briefly reviewing has, in the first instance, been adopted either by mere accident or empirically ; nor have we, on this account, any cause for feeling regret. We do not know in what the preservative power of vaccination consists ; and yet millions of lives have already been saved by this precaution.* A recent and very inte-

* (Esterlen.

resting example of the way in which therapeutical knowledge may be advanced, is afforded by what has occurred in the Andaman Islands. Dr. Dougall, a distinguished graduate of the University of Edinburgh, has apparently discovered that leprosy sores, and other ailments attendant upon that disease, can be cured by the aid of oil from the Gurgon tree, which is very common in these islands. Take another disease known to the ancients, although its pathology, still to a considerable extent obscure, has been carefully investigated only in recent times. I mean diabetes; and regarding it, we may compare the treatment pursued by Aretæus, for example, and that we now employ, with the result of feeling thoroughly assured that many steps have been taken in the right direction, and with signal advantage to suffering humanity, since the writings of the distinguished Cappadocian physician. I do not think the opinion unfounded that, owing to the recent advances in the knowledge of tubercular diseases, etiologically and pathologically, we may look forward with confidence to a decided gain in their efficient treatment; but even now may we not be said to possess in cod-liver oil a very potent means of modifying the progress of pulmonary tuberculosis? In the treatment of this disease and of other allied constitutional disorders, cod-liver oil was first employed in the Manchester Infirmary, chiefly by the elder Bardsley, after the commencement of the present century. Previously to that

time, however, an oil obtained by ebullition with water from the fresh livers of several fishes, the ling and skate as well as the cod, had long been a domestic panacea in strumous affections and chronic rheumatism. Subsequently to its use in the Manchester Hospital, cod-liver oil was largely used in Germany; but, falling into disuse in this country, its restoration to professional and public favour has followed the publication of Dr. Hughes Bennett's recommendation of its virtues, in his excellent treatise on that subject. Sir Thomas Watson has very happily expressed the characteristic effect of the remedy in phthisis, when he says: "It is antagonistic to a much greater extent than any other drug of the consuming power of the disease." There are probably few medical men who have seen much of this sad malady who would hesitate to concur in the opinion of a very high authority—Dr. Williams—that cod-liver oil is more beneficial in the treatment of pulmonary consumption than any other agent, medicinal, dietetic, or regiminal, that has yet been employed." We may justly congratulate ourselves on the possession of cod-liver oil; but it becomes us to remember that the ancient physicians used oil inunction in phthisis. This is expressly stated by Aretæus; and he, as well as Hippocrates, laud the use of milk in the same disease, preferring it to all other kinds of food. "For," says the former, "milk is pleasant to take, is easy to drink, gives solid nourishment, and is more

familiar than any other food from childhood. In colour it is pleasant to see ; as a medicine, it seems to lubricate the windpipe, to clean as with a feather the bronchi, and to bring off phlegm, improve the breathing, and facilitate the discharges downwards. To ulcers, it is a sweet medicine, and milder than anything else. If one will, then, only drink plenty of milk, he will not require anything else. For it is a great thing that, in a disease, milk should serve both for medicine and nourishment." In fevers, Hippocrates did not allow milk, more particularly in such fevers as were attended by bilious discharges from the bowels. The modern practice is not, in this very important particular, in agreement with the ancient ; the highest authorities, as, for example, Gairdner, Murchison, and Parkes, the last mentioned on weighty theoretical grounds, considering milk the best food in fevers.

We have been alluding to the manner in which the practice of medicine has been advanced, and may doubtless be still further advanced, by the simple method of observation and experience. It is true that we cannot entirely depend upon empirical laws. We cannot, for example, feel assured that quinine will certainly cure an attack of intermittent fever, mercury syphilis ; or, for that matter, that a dose or doses of any given medicine will exert their thoroughly ascertained physiological or therapeutic action ; still, such laws are

of the highest value, and we cannot help employing them.

The recent progress of chemistry, physiology, and pathology, has naturally led to the establishment of an advanced school of therapeutics, from whose labours signal benefits may not only be anticipated for medicine, but have already been conferred upon it. To Dr. Lauder Brunton, for example, belongs the great merit of conceiving accurately the therapeutic action of the nitrite of amyl from its physiological properties, and thereby of adding an useful remedy to our armamentarium. And so, also, to Dr. Fraser we are indebted for the elaborate investigations regarding the Calabar bean, which have resulted in a demonstration of its therapeutic value. Care must, however, be taken that the results of scientific inquiry and those of patient, oftentimes laborious, observation in the field of practical medicine running counter, do not interfere with the ultimate grand object of our profession—the healing of the sick.

We are not entitled to withhold remedies because we do not understand their exact nature, nor the minute changes they produce in the animal economy. Cæsterlen has well expressed the attitude which, as practitioners of medicine, we are called upon to assume. “The patient requires our aid, and we must decide for or against the employment of a particular medicine, and upon the manner in which to employ it.

If we possess sufficient experience, knowledge of the subject, and practical tact, we shall no doubt be able to do all for that patient which circumstances permit of."

Let each one of us be fully persuaded in his own mind. While deeply interested in, and much instructed by, the experiments performed by a Committee of this Association, regarding the use of mercury, for example, I remain as thoroughly convinced as ever that the much abused drug in question exerts a powerful action on the function of the liver, and is to be trusted as a most efficient remedy in controlling not a few of its disorders.

I regard cold as a powerful antiphlogistic, and its external application, already briefly referred to, as a remedy of unquestionable value in the treatment of hyperpyrexia; but my own observation, and the fullest attention I have been able to give to the recorded observations of others, have convinced me that the real reason for the present abandonment of a remedy of superior power—to wit, bloodletting—does not lie alone in the advance of scientific pathology. "The thinking man," writes one of the most philosophical of living physicians, Dr. Stokes, "finds it hard to believe that the fathers of British Medicine were always in error, or that they were bad observers and mistaken practitioners. They, indeed, have rested from their labours, but their works remain; and he

who reads the writings of Sydenham, of Heygarth, and of Fothergill; of Heberden and Fordyce, of Gregory, Cullen, Alison, Cheyne, or Graves; must have a very inapprehensive mind if he fail to discover that there were giants in those days; and that the advocacy of such ideas only indicates a state of mind not consonant with the modesty of science."