

**An oration on the improvements in medicine : delivered before the Philadelphia Medical Society, twelfth month, 13th, 1837 / by Joseph Warrington ; published by order of the Society.**

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Warrington, Joseph, -1888.  
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### **Publication/Creation**

Philadelphia : Joseph & William Kite, printers, 1837.

### **Persistent URL**

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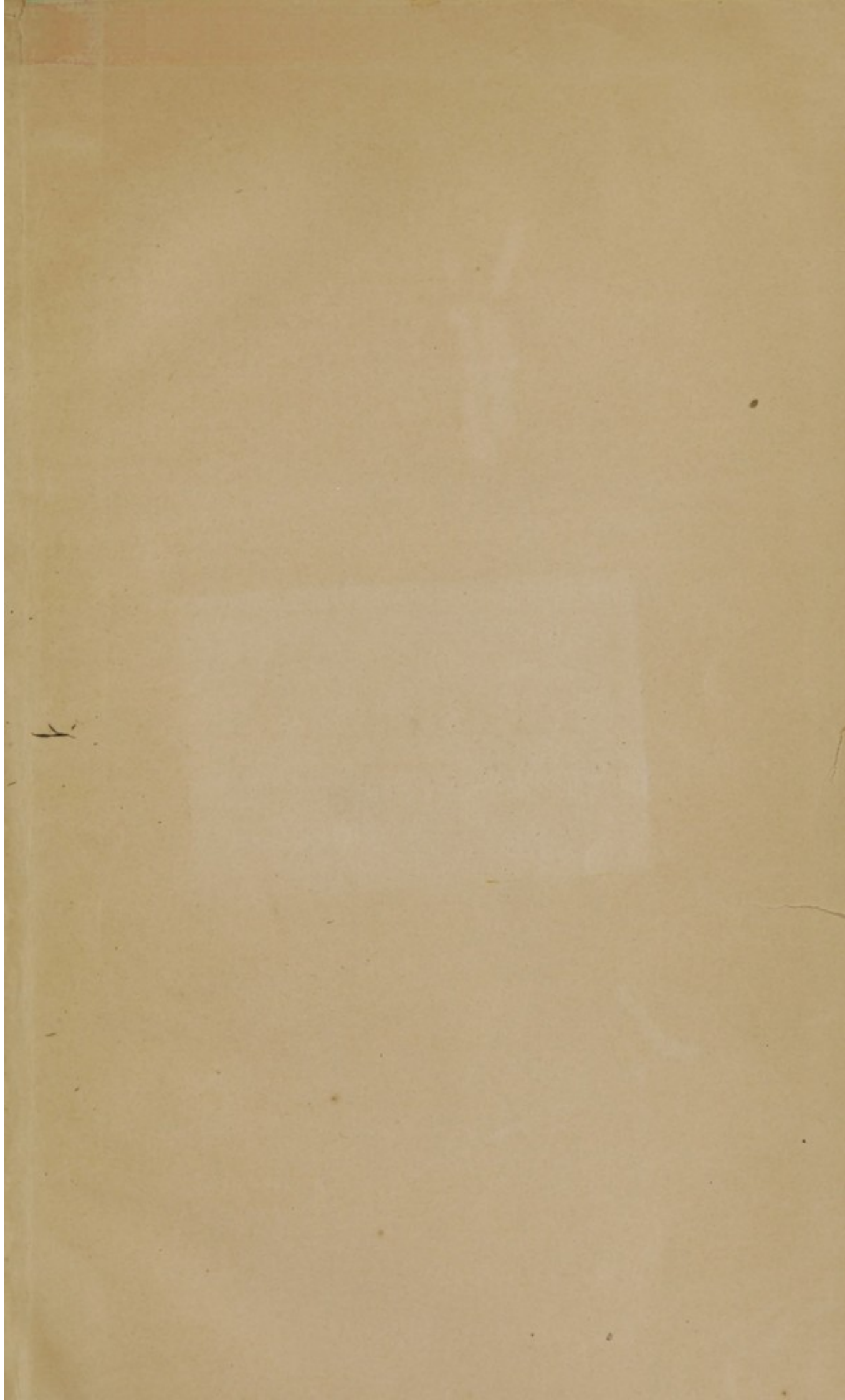
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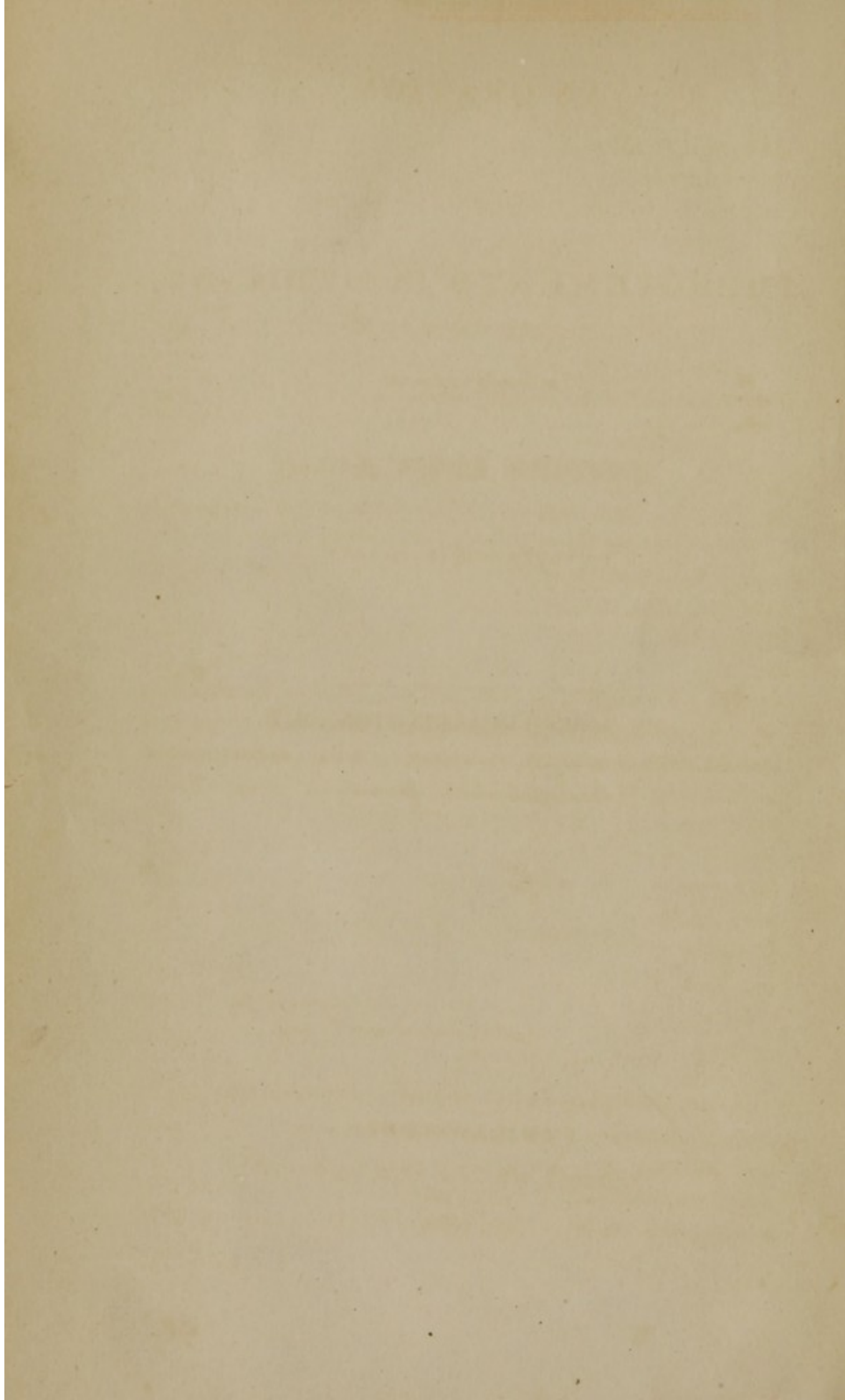
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AN ORATION

ON THE

IMPROVEMENTS IN MEDICINE,

DELIVERED BEFORE THE

Philadelphia Medical Society,

TWELFTH MONTH, 13th, 1837.

BY JOSEPH WARRINGTON, M. D.

HONORARY MEMBER OF THE SOCIETY, AND ACCOUCHEUR TO THE PHILADELPHIA DISPENSARY.

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## ORATION.

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Fellow-members of the Philadelphia Medical Society.—

GENTLEMEN :

In the course of events it has become my duty to fulfil an appointment, made in accordance with an established custom, of presenting an annual address before this Society.

While I am conscious that little is to be expected from one who has been, comparatively, a short time engaged on the great stage of action, yet, as a fellow-member, and from the interest I feel in the onward march of this body—whose objects are the scientific search after medical truths—I cannot withhold the mite, which my feeble efforts may enable me to cast into its treasury.

Agreeably to the plans I have proposed for this discourse, the design of which is to bring into a very brief review, the progress of Medicine, from its earliest periods, up to the present day, I must ask your forbearance while I carry you back to the dim obscure of antiquity—the period at which occurred the first infraction of the laws of the Creator, by plucking

“The fruit of that forbidden tree

Whose mortal taste brought death into the world,

And all our woe.”—

As in the violation of those laws, commemorated by the Sacred Historian, man, whose organism is the most complex and high-wrought, became the subject of bodily disease, which no doubt increased in proportion as “all flesh corrupted its way on the earth,” some means must have been

devised for its relief. An intelligent writer on Surgery has been disposed to consider Tubal Cain, the great-grandson of Adam, the "father of every artificer in brass and iron,"

"Him, Tubal named, the Vulcan of old time,  
The sword and falchion their inventor claim,"

as the forger of such surgical instruments as were then required.

The Egyptians, who for a long series of years appear to have been the only depositaries of literature, and what was known of art or science, ascribe the origin of Medicine to Thouth or Taaut, who, according to some mythologists, must have been identical with Hermes of the Greeks, the Tubal Cain of the Hebrews, the great-grandson of Adam.

Neither Medicine nor Surgery could have been much cultivated during the antediluvian age, since it is most probable, that from the longevity of the inhabitants, the comparative smallness of their number, as well as the general simplicity of their habits and pursuits, few diseases or accidents were incident to a people, whose iniquities God saw fit to punish with a life-destroying deluge.

When again the human family was suddenly reduced to eight individuals, and the verdant hills and vales offered up their ambrosial odours of pure incense to the Most High, neither sickness nor bodily affliction could infringe upon the comfort of those who had been preserved upon the bosom of the waters, for the purpose of 'multiplying and replenishing the earth;' and it was not till long after the catastrophe of the flood, when the earth teemed anew with inhabitants, and the moral inundation of vice had again spread over the face of the globe, that the Supreme Being separated the venerable prophet Abraham from amongst the nations of the earth, and instituted the custom which was to be considered the distinctive badge of Divine regard. This practice of circumcision was begun about three thousand seven hundred and thirty-five years ago, and is the only surgical operation of which we have any account during the patriarchal ages.

As we descend the stream of time, and approach the confines of authentic profane history, we find the study of Medicine first cultivated with something approaching to systematic arrangement amongst the inhabitants of Egypt; the people who, in other respects, were the most forward of the primitive nations in the march of civilization, and in the cultivation of knowledge. It has even been supposed by some, that Anatomy was studied by this ancient people, long before it was known any where else.

But from the sacred attention which was devoted to the dead, and the custom of preserving the bodies, as long as possible, from natural decay, by the art of embalming them, it seems probable that any dissection, further than might be necessary for this purpose, would have invoked the irreconcilable displeasure of the people.

Medicine appears to have had its origin in a custom of great antiquity, which consisted in exposing the body of the diseased in public places, so that any passer-by should give him the result of his experience in the cure of a similar case; if the patient recovered, he was obliged to record, for public benefit, both the nature of his affliction, and the remedy which was supposed to remove it. In the course of time, these records had so far accumulated, that they were preserved as invaluable treasures, in temples dedicated to the purpose. Priesthoods were established; and, for a long succession of ages, these inhabitants of the sacred institutions were the only ministers of health to the body, or solace to the soul. But when we reflect that they were ignorant of the anatomy and physiology of the patient upon whom they expended their random skill, their success must have been very uncertain. Their skill in surgery was perhaps even inferior to their knowledge of medicine; for while it appears they were acquainted with numerous simples of the vegetable kingdom, and some of the more active articles of modern *materia medica*, as squills, hellebore, salts of iron, &c.; they were unable to reduce the luxation of an ankle, which a member of a royal family, received while hunting.

The era of great importance in the history of that once powerful nation, the Jews, viz., their escape from servitude in Egypt, was not only the era of their civil and religious liberty, but also was probably the first period of the extension of medicine beyond the precincts of Egypt, although the practice of it was still restricted to the priesthood of this interesting people. Nor is it probable that this was the only outlet of knowledge; for the wisdom of Egypt being known abroad, the inquisitive of other nations visited it, and bore to their fatherland the instruction they had received. Thus, in time, other countries participated in the acquirements of knowledge.

The Greeks, who were the inheritors of Egyptian lore, drew their stores of learning thence, by the frequency of intercourse established between them. Melampus, Orpheus, Chiron, Esculapius, and many others, of ancient, and almost fabulous date, appear to have been instrumental in introducing amongst this afterwards classic nation, improved methods of treating the sick.

Pythagorus is probably entitled to the merit of having first carried Egyptian medicine into Greece, although Chiron and Esculapius appear to have been most eminent in practice; and, according to the custom of the country, temples were dedicated to the memory of the latter, filled with tablets, on which were inscribed the remedies deemed successful in the cure of certain diseases. Even in Greece, the priests of these temples were the ministers of consolation, as well to the souls as the bodies of the sick; and although the temples of Esculapius were specially famous for the success of their practice, yet a spirit of rivalry between the ministers of the different medical sanctuaries, stimulated the priests to greater industry of investigation, and essentially aided in the advancement of knowledge. One of the important results of this rivalry, was the institution of the practice of obliging every patient relieved by treatment, as a duty of religious gratitude, to give a representation of the appearance of his disease, or an accurate model of the part affected, accompanied by a tablet, describing

the symptoms, and recording the cure; and this votive tablet was to be hung up in the temple of the divinity to whom he ascribed his restoration. The accumulation of these medical trophies, while they attested the reputation and success of the temple, contributed to the improvement of the priests, by providing them with a vast treasure of important and instructive facts and observations, the value of which they were probably capable of appreciating, and of the advantage of which it cannot be supposed they were slow to avail themselves.

These temples became progressively converted into schools of medicine, and in them were found the materials which the genius of Hippocrates appears to have reduced to order; they were the great storehouses of facts, upon which he founded his diagnosis, prognosis, and rules of practice.

These schools of medical lore were also the theatres in which were taught different doctrines. The disciples of Cnidos in Asia Minor, were Empirics, who rejected all theory, and took experience alone for their guide; while that of Cos, at which the reputed father of medicine, Hippocrates, received his rudimental medical instruction, was of a dogmatical character, highly estimating the importance of a knowledge of the diagnostic symptoms, remote and proximate causes; thus systematizing the method of treating the various maladies to which human nature is subject.

The sagacity of some of the early disciples of the dogmatic sect, was displayed on several important occasions, in which pestiferous miasmata, that were destroying the inhabitants of large towns, were removed by their direction to construct barriers to the approach of this instrument of death, or to wash away the malarious filth of their stagnant pools by directing upon them the rapid currents of two large rivers; and again, when the plague was depopulating Athens four hundred and seventy-three years before the Christian era, by ordering large fires to be kindled in the streets of that city, as well as by using fumigations in the rooms of the sick.

We have already alluded to the genius of Hippocrates and

his compilation of a code of medical precepts from the extensive records and tablets in the Sanitary temples; and with this writer we may contemplate the first era in which the chaos of medicine was reduced to order, and medical instruction systematized. As in every department of life we look back with respect upon the inventor of a plan which contributes to our health, comfort or wealth, though that plan may have been so many times modified as to bear little trace of the original, so with this Coan sage—his name like the crimson ray of the setting sun, still lingers above the horizon, though stars of various magnitudes appear one by one in slow succession, till they stud the whole arch of heaven. Though more than two thousand years have passed away since he paid the debt of nature and was numbered amongst the dead, yet his memory is still cherished by all who read his biography in the history of medical science; and his labours though unappreciated by many a tyro in the art of healing, still exert an influence over the minds of the intelligent successors of Esculapius throughout the civilized world: and we may here venture an opinion, that on so solid a basis of careful observation and deduction did he establish his precepts in the art, that, *though we may carry anatomy to the analysis of the elementary tissues; though pathology may be studied with the most laudable zeal; though we may be believers in idiopathic or symptomatic fever, locate its cause in the brain or stomach, in the nervous or vascular system,—the principles of close attention to the condition of the patient, the situation and character of his disease, and the effect of remedies upon his system, as laid down by Hippocrates, must predominate with the successful practitioner so long as integrity of character and faithfulness in the discharge of professional duty, can be identified with the name of Physician.*

Such however, is the changeable disposition of mankind, that shortly after the death of Hippocrates, we find his descendants adopting speculations with little basis upon solid observation. Though even while medicine was in the hands

of men tenacious of their opinions, and those of the sect to which they belonged, we find scattered through a long series of years, an occasional halo which has graced the brow of some industrious investigator, showing the wreath of fame awarded him by his contemporaries or successors, in consideration of some important improvement or brilliant discovery he had made. As in the opinion of all sensible physicians, medicine cannot be successfully cultivated without a knowledge of the structure and functions of the system upon which it is to operate, so it must have marched slowly until obstacles were removed, and greater intelligence was gained by extended inquiry.

The conquests of Alexander the Great, having put into his possession the kingdoms of the then known world, Ptolemy Soter received at the death of the mighty Greek, the command of Egypt, as its royal master, and with a munificence which has endeared him to literature and science, established a society called the *Museum*, constituted of learned men, who were attracted to Alexandria by the liberality of the Egyptian king. This city afterwards became the centre of medical schools and hospitals; and here medicine was fostered with a more ardent zeal than had characterized its votaries in Greece.

The Alexandrian schools promoted the study of the acknowledged basis of medical science—anatomy, with a success before unknown. In that celebrated school, Herophilus first dissected human subjects; the government consigning the bodies of criminals to the knife of the anatomist. Thus amidst the bitter imprecations of a still prejudiced people, he unfolded to all real friends of science, much of the intricate structure of this little lord of creation. To him is ascribed the discovery of several nerves and their functions, circumstances unknown to Hippocrates or Aristotle. Still, much of the interesting knowledge of anatomy and physiology remained dark before them, as is seen in the vague conjecture of Erasistratus of the same school, that the “vena cava was the great

reservoir of the blood, while the aorta was the receptacle for the spirits, and the object of respiration was to supply the arteries with air." In this school, which was at this time far in advance of all others in the knowledge of medicine, another important improvement occurred in the separation of the practice of surgery from medicine, and the formation of three distinct branches of *surgery, pharmacy and dietetics*. Dietetics included, not diet merely, but every thing which related to health or the treatment of internal disease. Pharmacy embraced the composition of drugs, and many of the minor surgical operations; while surgery engrossed the treatment of external diseases and the great operations.

For some centuries the school of Alexandria produced a succession of learned men, both in medicine and other sciences, and contributed to the advancement of knowledge, or at least prevented it from the decay into which it was in danger of falling after the decline of Grecian literature.

The Roman empire during this period, was acquiring vast accessions of physical strength; but from the exclusive devotion of her people to war and conquest, science of all kinds was almost totally neglected; and it was not until she had extended her dominions far beyond the limits of Italy, that she even condescended to tolerate the pursuit of literature or the finer arts of life.

It is told by Pliny, that Rome was six hundred years without a physician. We are not perhaps to infer, that during this long time her people were without diseases, though it is probable that in that most virtuous part of her existence, while she disciplined her sons to the hardy business of preparing for conquest, they experienced fewer disorders than their subsequent luxury introduced.

Their history however is the history of the human race; while in a youthful and aspiring state contending with opposing powers for pre-eminence of strength, it devotes little time to enervating pleasures or luxurious refinements. Yet when manhood is attained, and the resistances to its triumph are

overcome, the intellect bursts forth in its brightness and shines till its glory is clouded by life-destroying dissipation; it then declines, and leaves a blank to be filled up by some succeeding aspirant.

'Tis thus—"the circling hunt of busy men  
Burst law's enclosure, leap the mounds of right,  
Pursuing and pursued each other's prey,  
Till DEATH that mighty hunter earths them all."

It is not to be supposed that during the period to which we have above alluded, there were no pretenders to the cure of such diseases as might occur amongst the citizens of Rome. Were this the case, that rapidly growing Republic would present a phenomenon unknown in the history of nations. Our inference from the assertion of so intelligent a writer as Pliny, only can be, that medicine was not cultivated as a science by those who were capable of advancing it.

The Romans drew most of their learning directly from the Greeks, and it is likely that what little they knew of medicine, was borrowed from the same source.

History indeed informs us, that notwithstanding the policy of this nation, kept the nerves and muscles of her sons trained to the arts of war, and a contempt of disease, when an epidemic of a somewhat malignant character, swept over her domain, the worship of Esculapius was introduced into Rome by a formal embassy deputed to Greece for the purpose of obtaining the god himself; but he being unwilling to leave his favorite country, for one, which had hitherto despised his offices, the deputation returned with a factitious deity, under the form of a serpent, into Italy, where he was received with unbounded transport, by the citizens of Rome. A temple was erected for him on an island in the Tiber; the usual appendages of priests, with all their ceremonies, were appointed, and the plague was stayed. Such was the superstition of the Roman people, at this period of their ignorance, that they absolutely proscribed every practitioner of medicine, who did not deal in the incantations of this pretended Esculapian art.

But, after the lapse of a century, the intellect of this Herculean nation began to expand, and natural science to be cultivated. These absurd prejudices gradually wore down, and rational medicine became more appreciated. Asclepiades, a Bythinian, then appeared on the stage, as the healer of their diseases. He adopted the too well established custom, of traducing the merits of his medical predecessors, especially Hippocrates; and by indulging the tastes of his patients, with a liberal allowance of wine, as well as by great diligence in his attention in all cases to what contributed to their comfort and flattered their prejudices, attained great popularity. To him, it is believed, that the science of medicine is indebted for a classification of diseases into acute and chronic; a classification which has a natural foundation, and which remains to be acknowledged at the present day,

The impulse which had been given to medicine, by the study of anatomy, under royal favour, at Alexandria, had awakened the spirit of investigation in other places. Anatomical descriptions of parts; essays on the pathology of the osseous system; surgical operations for cataract, cancer, and fistula, were detailed toward the conclusion of the first century, after the Christian era. Even in situations in which human subjects could not be obtained for dissection, important investigations were made upon the bodies of apes; the courses of several nerves were traced from their origin in the brain, to their distribution throughout various parts of the body; the distinction between those of sensation and motion; the decussation of the nerves of vision at the infundibulum; and the capsule of the chrySTALLINE lens, clearly demonstrated.

The glands of the mesentery, were discovered by Marinus, to whom is also ascribed the discovery of the par vagum nerve. Medicine at this period, was considerably forwarded by Celsus, who not only collected together much scattered medical knowledge, but also recorded the result of his personal observations. He accords the merit of first breaking up the stone in the bladder, to a Greek Physician, named Ammo-

nus, who from that circumstance, obtained the surname of Lithotomist.

Unhappily for science, however, physicians of this time, all rested too much in attempting merely to systematise what was already known, rather than extending their inquiries into the vast field of discovery, which lay unexplored before them—for although one of them obtained from his immediate successors, the epithet of the *incomparable Aretus*, for the clearness of his style and the elegance of his descriptions of disease, he retained the notions of the ancients, in regarding “the heart as the principle of life and strength; the peculiar residence of the soul and nature of man; the exciting cause of respiration, seated in the centre of the lungs, which it inspired with a desire for fresh air.”

While thus the science of medicine was advancing with a steady pace—while the mists of error were successively dispersing before the brilliant beams of truth, and the genius of Christianity was emancipating the human mind from the trammels of that gross and sensual superstition, which had weighed down its faculties for a period of 4000 years—the illustrious Galen arose, the herald of a brighter day; gifted with the clearest judgment and most splendid talents, endowed, as Cabanis observes, with an intellect sufficiently comprehensive to embrace all that was then known of the sciences, and cultivate them with equal success—he rapidly distanced every competitor, and soon divided the admiration of the world with Hippocrates, and became the oracle of physic.

Claudius Galen, was born at Pergamus, in the 31st year of the second Christian century; at a time when there existed a strong rivalry between the dogmatic, empiric, methodic, pneumatic and eclectic sects. He appears to have adopted the principles of the latter, clearing away much of the rubbish of speculation, which had been accumulated by the devotees to party. He is said to have availed himself of every possible opportunity of studying comparative and human anatomy, not only from the models of the human skeletons which had been hung up in the museums he met with in his travels, but from

the dry bones of a body long buried and subsequently exhumated by the current of a stream, which had gradually encroached upon the grave, as well as from the putrid bodies of banditti, who had been slain in their contest with travellers, and denied the right of sepulture. The number of the writings of this prodigy in medicine, is enormous; on physic alone he is said to have composed 200 treatises;\* many of these have been fostered by his successors with the greatest care, and handed down to posterity as the precious relics of semi-antiquity.

Here, gentlemen, the medical historian has to pause;—it seems as though the science had now reached the zenith of its glory; as though the intellect of man, astounded at what had already been accomplished by an individual of his race, remains paralyzed with wonder, at such mighty results. A long hiatus follows. The glittering object, which had been pursued, and which increased in splendor the farther it was traced, seems suddenly to have retired from the delighted vision, and the eye is left to gaze on a general chaos of intellect, long before it perceives any new star rise above the horizon of the mental firmament, to attract it onward in its course. Thus, as in the religious world, after the soul-convincing miracles of that Divine personage, in whom all the nations of the world were to be blessed, according to ancient prophecy; after the doctrines of the Son of God had been promulgated with an unprecedented zeal and success, till the then known world had been traversed by the disciples of the cross, who suffered martyrdom, in consequence of their devotion—a dim obscurity—which increased to almost impenetrable darkness, shrouded intellect in superstition and barbarism, the result of the reacted passions of human nature. Like the church to the wilderness—so medicine, and

————— “Serene Philosophy,  
The effusive source of evidence and truth,  
Without which, what is unenlighten’d man?  
A savage roaming over the wilds and wastes,  
Devoid of all the finer arts and elegance of life.”—

\* Some writers rate the number at three hundred, others at five hundred.

these, I say, retired to the cloister of the apostate Monk, and there remained buried for centuries, during which the slumber of intellect continued, with a few exceptions, till the art of printing came to lift again the veil which had fallen upon almost all that was valuable in philosophy, medicine and religion. True, many of the works of the ancients were preserved from the rust of time, by an occasional genius, who copied from Galen, with a little addition of personal experience. Thus Oribasius, born at the same place 200 years after Galen, (besides the usual mode of cupping, which was known to Hippocrates,) speaks of the salutary influence of scarification in certain diseases. The plan consisted in putting a bandage tightly around the ham, rubbing the leg, immersing it in warm water, beating it with reeds until it swelled, and then incising the bruised part; in this way, says he, large quantities of blood can be procured, and great relief afforded in vertigo. Oribasius, and after him Actuarius, describe a peculiar species of canine, or rather lupine madness, in the paroxysms of which, the patients prowl about like wolves during the night, but remain passive during the day.

Nemesius, Bishop of Emessa, says, the motion of the pulse originates in the heart, and principally from the left ventricle. The artery being violently dilated and contracted with unvarying regularity. During its *dilation*, it draws the thinner parts of the blood from the next veins, the exhalations or vapours of which blood, form the aliment for the vital spirit; but during its *contraction*, it exhales whatever vapours it has, by secret passages through the whole body: so that the heart throws out whatever is fuliginous, through the nose, by expiration. But the spirit of inquiry could not remain constantly suppressed, even during the dark ages; for we find authors giving their attention to particular subjects, and thus contributing to the specialties of the science.

Paul of Egina in the fourth, Alexander of Tralles in the sixth, and Theophilus in the seventh centuries, stand foremost

as the guardians of the science which they also laboured to extend.

The downfall of the Roman empire, about the close of the fifth century, together with the torrent of barbarians, who, bursting from their icy barriers in the north, inundated, with resistless force, the fertile countries of the south, resulted in the destruction of literature in the west, scattering many of the most learned men of Europe amongst the natives of the east, and transferred for a time the seat of literature from Greece and Italy to Arabia. The capture of Alexandria, and subsequent invasion of Egypt by the Saracens, placed the Arabians in possession of the books and literature of Europe. The literary sparks which the Grecian, Roman and Alexandrian writers had kindled, and which now fell upon the Arabians, in consequence of these exterminating wars, were fanned into a brighter flame under the fostering care of Caliph Almanzor, who founded Bagdat, endowed it with colleges and hospitals, and invited to them the physicians of Europe. These, translated the writings of their countrymen, and added to the general stock of medicine, some of the milder articles of the *materia medica* which are still in use amongst us. To one of the most eminent men of this school, Rhazes, who has been called the Galen of the Arabians, we are indebted for the first accurate description of small pox and measles; and he is said also to be the first author who wrote upon the diseases of childhood.

Avicenna and Haly Abbas are entitled to great respect for their labours in the field of science.

In consequence of dissention between the Caliphs, learning again took its flight, and found protection at the University of Cordova, in Spain. This country, which at present holds a subordinate character as a place of learning, at one time possessed seventy public libraries, and had academies located at Seville, Toledo and Murcia. Avenzoar of Seville wrote a work on pharmacy, which was afterwards translated into Hebrew and Latin.

While the followers of Mahomet, if not actively employed in refining the precious metal, at least preserved the ore from alloy, those mischievous perverters of Christianity, the apostate monks, were assiduous in their endeavours to debase learning to the same adulterated standard, to which they had brought the religion of the Cross. The profession of medicine had peculiar charms amongst the inhabitants of the monastery, and to so great an extent did they amalgamate the practice of this art with their avowedly sacred functions, that the Pope deemed it necessary, in 1123 and 1131, to forbid "any interference of the clergy with the sick, for any other purpose than to administer the consolations of religion." So reluctantly, however, was the point yielded, that in 1139, he issued a *bull*, severely threatening any monk or canon who applied to the practice of medicine, "neglecting the sacred objects of their own profession, and holding out the delusive hope of health, in exchange for ungodly lucre."

The school of Salernum, in Italy, gradually emerged from obscurity during the dark ages; and by the study of the works of the best writers on medicine, both amongst the Greeks and Arabians, taking as their special guides the works of Galen, contributed to the emancipation of medicine from the trammels of barbarism, in which it had long been held, and raised it progressively to its proper rank amongst the sciences.

At this school, Constantine, the African, became distinguished; and to him Italy was indebted for introducing Greek and Arabic medicine into that country, about the middle of the eleventh century.

In the twenty-fifth year of the thirteenth century, Frederic II. of Germany, or, as he was called, *Emperor of the West*, endowed the College of Salernum with peculiar privileges, laid down a course of study to be followed by the pupils, and regulated the several examinations which the candidates for degrees were to undergo, previous to being licensed to practice either medicine or surgery. The student must have attained the age of twenty-one years; must have been seven

years under the instruction of a competent professor, and devoted at least twelve months to the study of anatomy, before he could be admitted amongst the body of surgeons. He was required to take an oath of conformity with the laws and usages of the college—to refuse all remuneration for attendance upon the poor—not to enter into any lucrative compact with a druggist or apothecary. Having sworn faithfully to observe all these regulations, a book was placed in his hands, a ring upon his finger, and he was then dismissed with a kiss of peace. This school continued to flourish about four hundred years, when it began to divide its reputation with those of Paris, Bologna, Padua, &c.

In 1271, Pitard, an eminent surgeon, procured the foundation of the College of Surgeons at Paris; an event producing beneficial results to this department of science, which, from this period, became successfully prosecuted in France, as a distinct profession.

In 1320, a society was formed in England for the special purpose of promoting medical knowledge.

About 1363, Guy de Chauliac wrote his book called *Magna Chirurgica*, in which he mentions as novelties, a pair of forceps for seizing wounded arteries; and mentions that the Cæsaean section had been performed, though only on the body of the mother after her death.

Some additions to the stock of medical knowledge were thus added, by the labours of a few writers and practitioners, in Western Europe.

The operation of Lithotomy began about 1460 to be performed by regular surgeons; the whole business of operating having been in the hands of itinerant practitioners.

The capture of Constantinople by the Turks, under Mahomet II., had the effect of dispersing many Christian students abroad into Italy, with the manuscripts of the Greek writers, and thus furnished an extensive field for study and commentary. Nearly half a century, however, was expended, in useless inquiries respecting the dissimilarity between the doctrines of the Greeks and Arabians.

In the course of the fifteenth century, ammonia, and some of the preparations of antimony were discovered by Basil Valentine. During this period, the properties of metals and their compounds were more closely investigated than before, and several of their preparations applied to medicine.

Early in the sixteenth century, Rhodion of Germany, compiled a work on Obstetrics, which continued to be the textbook of all practitioners for many years, until the art became improved by Parè Mauriceau, Deventer, and others.

In 1518, the Royal College of Physicians was founded by Thomas Linacre. The establishment of this institution operated a very salutary effect upon the profession and practice of medicine in London; and an impulse had in various places been given to invention and improvement; new acquisitions were made in various departments of science, either by slow but steady movements of some, or by the versatile and presumptuous conduct of others who leaped suddenly into new and untried paths. For the introduction of mercury, and several chemical preparations, medicine is indebted to the daring and fantastic genius of Paracelsus; and surgery was eminently advanced by Parè Botal, Alphonsus, Clowes, Bosc and others. Minute anatomy was prosecuted with ardour—the structure of the ear, the intestinal appendages, the pancreas and other glands were examined; the duplications of the serous membranes demonstrated; the lesser, or pulmonary circulation was pointed out by Columbus, and the grand movement of the blood throughout the whole machine of man almost explored by Servetus of Spain; the foramen ovale and ductus arteriosus of the fœtus by Aurautius; the renal glands, the thoracic duct, and the internal tube of the ear by Eustachius, as well as the valves of the veins by Fabricius.\* All this marks the progress of research in the departments of anatomy, surgery and physiology. The verdant fields of nature were explored by Anguilara, Brunsfels, Clusius, Cæsalpin, the Bauhins, Columna, Gerarde, and Alpinus, who reviewed

\* Fabricius ab. acquependente.

and enriched the labours of Pliny and Dioscoridies, not only by the study of plants in their native country, but by extensive pilgrimages to foreign climes.

In reviewing the history of the sixteenth century, and contrasting it with the long series of ages which preceded it, we are forcibly struck with the vast difference between them; the faculties of the mind appear as if suddenly awakened out of a long slumber of infancy into vigorous manhood, at once to engage in the full exercise of its functions.

“To what are we to attribute this mighty, this almost incredible change, this sudden emersion from the most profound midnight into the rapid dawning of a brilliant day? To what, but to those two great events which shook the empire of darkness to its very centre, and dissipated the phantasies of ignorance before the light of knowledge?—to the discovery of the *art of printing*, and to its necessary result, the *revival*, or rather the *new birth* of letters, and to the emancipation of the human mind from the shackles of a gross and corrupting superstition.”

These were the glorious circumstances which marked the close of the fifteenth century, and whose effects began to appear in the sixteenth. The seed was sown, but it remained for the seventeenth, eighteenth and that century in which we live, to reap the rich and productive harvest.

The discovery of the lacteals in 1622, by Asselli; of the circulation of the blood in 1628 by Harvey of England; the simultaneous discovery of the lymphatics by Rudbeck in Sweden, Bartholine in Denmark, and Joliffe in England, about 1652; of the termination of the lacteals in the thoracic duct by Pecquet; the more accurate description of numerous glands and their functions, by other anatomists; the new and useful method of exhibiting anatomy by coloured injections, planned by Swammerdam and De Graaf, and executed by the admirable Ruysch; the investigation of the character and functions of the organs of reproduction, and the development of the human ovum; the invention of obstetric forceps by Chamberlen, and the intro-

duction of male accouchers into the practice of midwifery ; the pursuits of Van Helmont, Hoffman, Sylvius, and Dale in chemistry and pharmacy ; of Young, Cyprian, Wiseman and Colbatch, in surgery ; Brendel, Charleton and Wedel, in pathology ; of Baglivi, and the sagacious Sydenham, in the practice of medicine, together with a series of anatomical engravings by Bidloo,—mark the progress of medicine during the seventeenth century.

With all the advantages which had been conferred upon our art, by the important discoveries of the century which has just passed under review, with the powerful impetus which had been given to the collateral sciences by the philosophy of Bacon, and the master-genius of Newton, a flood of light was poured on medicine, the fertilizing rays of which were scattered over the Christian world.

By Bœrhaave, Gaubius, Vanswieten, Camper, Haller, Hister, Deventer, Siebold in Germany ; Chesselden, Pott, the Hunters, Denman and others in England ; the Monros, Whytt, Hamilton, Gregory, Cullen, Cruikshank, John Bell, and many more in Scotland ; Barry in Ireland ; Lieutaud, Chomel, Desault, Boyer, Astruc and Levret, in France ; Valsalva, Valisnerii, Fontana, Berserius, in Italy, and a host of others throughout Europe, the various departments of medicine have been carried forward with an energy and effect hitherto unknown.

The age of authority had passed away : its place was occupied by a persevering spirit of investigation ; idle theories which before could claim antiquity, were now of short duration, because the rapid accumulation of facts supplanted them ; and it is highly probable that the medical facts and observations which were published in the eighteenth century, did more towards explaining the functions and curing the diseases of the human body, than all that had remained on record for many, and perhaps all the centuries which preceded it.

The practice of inoculation for mitigating the horrors of small-pox was introduced, and the nature and mode of treating

scurvy, was so fully pointed out, that that once destructive disease is deprived of its terrors and is now little seen.

In the first voyage for the establishment of the East India Company about the beginning of the seventeenth century, out of four hundred and eighty men, one hundred and five died of scurvy before they had reached the Cape of Good Hope; but so much had the suggestions of Dr. Lind and other physicians accomplished, that when, about 1770, Captain Cooke made a voyage of discovery with one hundred and eighteen men during three years and eighteen days in the various climates between 52° North and 72° South latitude, he lost only a single man, and he had been previously diseased.

The introduction of ventilators for the removal of pestilential miasmata from hospitals, ships and prisons, is ascribed to Dr. Hales, who died in 1761.

Surgery, which now justly holds a conspicuous place in medicine, was separated from the inferior rank of Barbers, in the reign of George II., in the early part of the eighteenth century.

The materia medica was greatly improved in the eighteenth century. Whoever will indulge in the profitable amusement of comparing the *Pharmacopœia Bateana* and the *Pharmacopœia Chirurgica*, with that in use in the days of Cullen, will soon mark the difference; though to quote from the title page of one of the former, "The whole work Galenically and Chymically performed;" "The like never published in any language whatsoever," "By William Salmon, M. D. Living at the Great House by Black Friars stairs, London, 1698."

The use of Peruvian bark, Columba root, *Polygala senega*, *spigelia Marilandica*, and many other valuable remedies, were either unknown or little appreciated before the eighteenth century.

Numerous scientific societies were formed during this period, which have contributed in various ways to the advancement of medicine directly or collaterally.

An extended knowledge of anatomy and physiology enabled

Braidwood of Edinburgh, and the Abbe Sicard of Paris, to teach persons who could not hear, not only to read and write, but to hold conversation.

The first Humane Society for the recovery of drowned persons, was instituted at Amsterdam in 1767. The investigations of physicians having enabled them to point out the proper mode of treating these unfortunate persons, one hundred and fifty of those whose animation had been suspended, were recovered, in the course of the first four years after the formation of the society.

The first successful result of operation for congenital cataract, is said to have occurred in the practice of Chesselden of London, in 1728.

The principles of obstetric science, were considerably advanced during the 18th century, by Hunter, Denman, Baudelocque and others.

Thus we see, that at this period, medicine made many triumphs. The human race were more safely ushered into life, and in their passage through it, many of their unavoidable sufferings were considerably lessened.

In it, every branch of medical knowledge was carried to an amazing extent; every department of the healing art improved; the chances for life and health enlarged, the avenues to death contracted, the deaf were taught to understand, the blind to see, the dumb to converse, and the apparently dead raised to life.

With these happy results achieved by our ancestors, the 19th century opened upon civilized man, and found him pursuing his course of investigation with resistless energy, and calling to his aid in medicine all the great improvements in the collateral sciences.

The experiments of Galvani, applied to the arts by Volta, and followed up by Davy, Henry, and many others, have opened new views of the animal economy, and furnished means to reduce to their ultimate elements, many substances whether vegetable or mineral, which had before been con-

sidered simple. Chemistry is contributing most essentially to the improvement of the *Materia Medica*, not only by the introduction of new articles, as Iodine and Creosote, but by presenting to the prescriber a long and invaluable list of proximate principles of the large and nauseous medicines heretofore in use.

The phenomena of endosmose and exosmose, as presented to medical philosophers by Dutrochet and others, together with the results of experiments, made by our fellow townsman, Dr. J. K. Mitchell on the penetrability of tissues, and the penetrativeness of fluids, whether liquid or gaseous, promise to become important items in the doctrines of Physiology.

The selection by individuals, of particular classes of diseases for their peculiar study, upon the principle of division of labour, is producing important results to medicine, as is seen in the works of Willan, Bateman, Alibert, Rayer and others, on cutaneous diseases. Abercrombie, Rostan, Ollivier, Lallemand, &c. on diseases of the brain. Pinel, Esquirol, Gorget, Foville, Pritchard and others, in disorders affecting the intellect.

The researches of Sir Charles Bell, of Majendie and Bellen-geri, corroborated by some subsequent pathological observations, greatly enlarge our views of the functions of the spinal nerves; while by the labours of Lobstein, Meckel and Breschet, our ideas of the physiology of the sympathetic nerves have been greatly increased.

The world is indebted to Bichat, all of whose works have been published since 1800, for most important aids in the study of anatomy and physiology.

The horrors of operation for the removal of vesical calculus, have been greatly diminished by the persevering ingenuity of Civiale, Herteloup and Jacobson, within a few years past.\*

\* The Orator might here mention the names of several eminent surgeons, of our own country, who have adopted the plan above alluded to, with most happy results; but as he hopes before long, to see an essay, *especially* devoted to the history of *American Medicine, Surgery and Pharmacy*, he forbears entering upon these particulars in so general a discourse as the present.

By the introduction of vaccination, which was promptly done by the physicians of this country in the early part of this century, very few cases of genuine small pox, are now seen amongst us.

New light has been thrown upon dropsy and diseases of the kidney, by Drs. Blackall and Bright.

Diseases of the female organs of re-production, have been studied and explained by Sir Charles M. Clarke, Mad. Boivin, Dr. Duparcque and others, with a minuteness unknown in former times.

By Louis and Andral, by Broussais and by his more dispassionate followers, have we been enabled to study febrile diseases, those of the alimentary canal, and indeed diseases in general, with far greater accuracy than heretofore.

While Avenbrugger, Corvisart, and more especially Laennec, followed by a host of others, are preparing the way for certainty in medicine, by prosecuting with a most laudable zeal, the diseases of the thoracic viscera, Davis, Hamilton, Dewees, and many more, are contributing largely to our knowledge in the obstetric art; and, if we may judge from what we know of the industry of many of our contemporaries, the time is near at hand when the medical literature of America will be little behind that of Europe. True, the facility and frequency of intercourse with our trans-atlantic brethren, makes learning almost one common stock, yet it will be found, that since the days in which our veteran fathers relieved us from the pressure of a foreign yoke, our institutions for the promotion of science, have stood upon their own bases, and marched forward with a zeal and success, which has raised them to an honourable rank with those in the old world; and the Parent Stalk,\* still in more than its pristine vigour, has given proof of the talents of its cultivators, in the fact, that its scions † are now spring-

\* University of Pennsylvania.

† Amongst which is the Jefferson Medical College, located in this city, and without much, if at all, diminishing the number of pupils, usually attending the University, has a class the second in size in America. Proving First, The value of the instruction given in the College; and Second, The advantages which Philadelphia offers as a focus for the acquisition of medical knowledge.

ing up around it, striking roots deep in the native soil, fast rising in energy and claiming a share of its glory. Of the more than three thousand men, which this University has sent forth, clad in the panoply of the healing art, many of whom have reflected the greatest honour on their alma-mater, time and circumstances preclude me from saying more, than that identified as this society, whom I am thus privileged to address, has hitherto been with the original school, it gathers all others in its friendly embrace, and rejoices in the extension of science over the wide expanse of our populous country.

Founded about the year 1789, the Philadelphia Medical Society is an institution creditable to the country which gave it birth, and to the talent of the great men who have sustained it; and doubtless has been an important means of supporting the reputation of our halls of instruction. The vicissitudes of time, however, have robbed us of the older veterans in the cause, and the necessary transfer of many of our strong men in debate, to the position of public teaching, has caused a hiatus, which the more diffident of the rising members of the profession seem reluctant to fill. But let us be stimulated by the reflection, that this oldest institution of the kind in the western hemisphere, which has enrolled more than two thousand\* of the sons of Esculapius amongst its associates, and that nearly two hundred of these have been created honorary members, by distinction in the profession, in this, and some of the oldest countries in Europe—that, in conjunction with the College of Physicians in this city, its deliberations have been considered authority in medicine, when called for by public necessity, or the convictions of its intelligent members.

At its head have stood those pillars of the American temple of Medical Science, Rush, Barton, Chapman, Dewees and Physick.

\* The records of the society, previous to 1802, have been mislaid—the number of members, both ordinary and honorary, is drawn from the minutes since that period. For the same reason we are unable to indicate the names of the presiding officers, previous to the time of Dr. Rush.

The influence of such a society, Gentlemen, is not within the sphere of our calculation. Look at the immense results of the Medical and Surgical Societies in Great Britain, the Academy of Medicine and the Anatomical Society, the Society of Observations, &c., in France, as well as those in other places, and let us ask ourselves what would be the state of science without them. *The business of Medical Colleges is to teach what is known of science, but it is the duty, and should be the object of the Alumni, constituted into associations, to extend its boundaries.*

May then the spirits of our departed fathers in medicine hover over us in our pursuits in the healing art. May an extension of life and continuance of health be granted to him\* who is this day present with us, and he, in conjunction with all our other teachers, for a succession of years, continue to welcome pupils to this city of Hospitals, Dispensaries, and Medical Schools. May Dr. Dewees,† of whom some of you took an affectionate farewell, when the failing powers of nature made him seek for retirement in a more genial clime, but where disease still exerts its withering influence on his enfeebled frame, enjoy the fruition of his toils in the world to come.

And for our venerated President—who, for a long period has been seated on the highest pinnacle of professional honour, and for the last fifteen years has placed his sign-manuel upon the diplomas of our society, but who, now retired from the busy world, soon to close his long life of useful labours, to be seen by us in *effigy* only‡—may we adopt the appropriate language of the estimable gentleman, who has, for more than twenty years,

\* Professor Chapman, for several years a most efficient president of the society.

† Dr. Dewees resigned his professorship in the 11th month, (Nov.) 1835, in consequence of ill health. The parting interview with the class was truly affecting. He had been President of the society only one year, when he was succeeded by Dr. Physick.

‡ A highly executed portrait of Dr. Physick is suspended in Dr. Chapman's lecture-room, in which the oration was delivered. The picture was the gift of the class of 1836-37, who were desirous of handing down to succeeding generations an effigy of the dignified Emeritus Professor of Anatomy and Surgery.

stood as one of our Vice Presidents:\* “Now, that the shadows of evening are lengthened out, may consolations gather thickly around thee, soothed by the consciousness of a faithful discharge of duty, and remembering that a grateful community are prepared to acknowledge, that ‘thy lamp has burned for the good of others.’ ”†

Finally, my fellow-members, may we, whom Providence still blesses with powers of intellect, which he has designed should be employed in the cultivation of that science, which has for its object the health and happiness of the human family, remembering that the insignia upon our escutcheon is “*EX COLLISIONE SCINCTILLA*”—carry out the earnest request of Dr. Rush to his pupils: “Observe, read, think,” and communicate, till, having expended the energies of our lives for the benefit of our race, we leave the event to

“HIM,

Whose broad eye the future and the past  
Joins to the present, making *one* of what  
Was *three* to mortal thought.”

\* Dr. Joseph Parrish.

† Dedication of his Surgical Observations to Dr. Physick.

† At six o'clock in the morning of the 15th of the 12th month, two days after the delivery of the oration before the society, Dr. Physick expired.

His death has produced a sensation, not only throughout the medical profession, but in the whole community. The Medical Society, out of respect for the deceased, passed resolutions, testifying their sympathy with the bereaved family, and after making appropriate arrangements for attending the funeral, &c., adjourned without transacting its usual business.

