

## **The Hunterian Oration ... 1838 / [Benjamin Travers].**

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THE  
HUNTERIAN ORATION  
1838.



TRAVERS, B.

*From the Author.*

HUNTERIAN ORATION



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THE  
HUNTERIAN ORATION.



NOTARIO VARESE

NOTARIO VARESE

THE  
HUNTERIAN ORATION,

DELIVERED IN THE THEATRE OF  
THE ROYAL COLLEGE OF SURGEONS IN LONDON,

ON  
THE 14TH OF FEBRUARY, 1838.

BY  
BENJAMIN TRAVERS, F.R.S.,  
SURGEON EXTRAORDINARY TO THE QUEEN,  
AND  
SENIOR SURGEON TO ST. THOMAS'S HOSPITAL.

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LONDON:  
LONGMAN, ORME, BROWN, GREEN AND LONGMANS.  
1838.



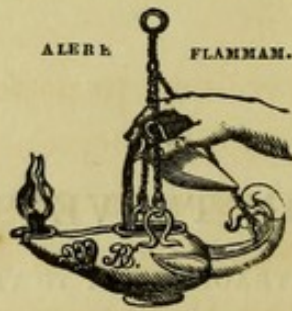
HUNTERIAN ORATION

DELIVERED IN THE THEATRE OF

THE ROYAL COLLEGE OF PHYSICIANS IN LONDON

LONDON:

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RED LION COURT, FLEET STREET.



301257



THE  
HUNTERIAN ORATION.

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MR. PRESIDENT AND GENTLEMEN,

**T**HE duty which I have now to perform, like many others, discovers its real difficulty only on actual approach: for what can appear easier or more inviting than an exposition of the claims of so rare and remarkable a man as JOHN HUNTER to our especial remembrance and gratitude? Yet, be it recollected that this has been the subject-matter of three-and-twenty anniversaries, and that commonplace eulogies or laureate phrases would be ill suited to the genius of the place, and offensive to the dignity of the subject.

With Mr. Hunter's biography the world is now as fully acquainted as authentic materials permit, or as inquiry is proper and profitable to survivors. The minutest circumstances are interesting which throw additional light upon the constitution and habits of so



philosophic a mind ; but curiosity is a genuine gossip, and seizes with the same impertinent avidity upon the domestic microcosm of an illustrious citizen and of one notorious for his crimes.

The best life of a philosopher is contained in his works ; these are his veritable autobiography, by which alone his powers and his place in the history of his species can be determined. The circumstances of Hunter's life, if we except the direction and example of his justly celebrated brother, presented no richer opportunities than fall to the lot of most hospital surgeons : it was his mind, and not his circumstances, which made him great. His reputation, like his Museum, was the gathering of his own genius and labour. Had we unfortunately been deprived of *all* Hunter's writings, or had he never written a line, the Collection which bears his name would have abundantly recorded the scope of his vast design, the originality and the philosophical spirit of his researches. I do not by this observation mean to imply that any mode of transmitting to future ages the most valuable of all our possessions, offers a substitute for that divine art which can so multiply and diffuse its treasures as indeed to constitute a memorial "*ære perennius.*" "Books," says a great authority\*, "are the legacies that genius leaves to mankind, to be delivered down from generation to generation, as

\* Addison.



presents to the posterity of those who are yet unborn."

It was not until after an interval of years from the period of Hunter's death, nor without much solicitation, that the Government became masters of the sacred treasure which was committed in trust to the guardianship of this College. And to what protection, let me ask, could it so properly have been consigned, or with such reciprocity of benefit? Enormous sums have been cheerfully expended upon its conservation, and strenuous efforts have been made, and of late years redoubled, to convey to the scientific world a just appreciation of its value. On the other hand, this splendid Collection exhibits copious and conclusive evidence of the truth of those principles and doctrines, which have mainly contributed to raise the character of British Surgery to the exalted position which it holds among the nations of Europe.

To elucidate this statement it may be useful to take a short retrospect of the rise and progress of the art.

The history of surgery demonstrates, as might *à priori* be expected, that its improvement has been progressive in a ratio corresponding to the knowledge of the structure and uses of the parts of which the human frame is composed. In the time of Hippocrates it was a profanation to touch the dead body, except in the funereal ceremonies; and when, centuries afterwards, Galen arrived at Alexandria for the purpose



of prosecuting anatomy, human dissection was forbidden. In the interval, under the enlightened sway of the Ptolemies, the first rude dissections of the human subject had been made by HEROPHILUS and ERASISTRATUS, the founders of the once celebrated school of Alexandria. But the feeble and delusive light which dawned upon anatomy in the Greek and Roman æra was chiefly obtained from dissection of the bodies of animals, living and dead, and of such occasional exhibitions of the human organization as war, famine, and casualty contributed to present.

Yet it is not to these circumstances only, unfavourable as they appear to the progress of anatomical knowledge, that the long prevailing darkness is justly to be ascribed ; for it may be remarked, although the anatomy of animals furnishes a very various and imperfect type of the human structure, that the most important physiological facts which later and happier times have established have been derived from this source. It is rather attributable to the rare appearance, in the course of ages, of men instinctively impelled by the ardent desire of investigating nature in this interesting department of her works, and at the same time capable of conceiving and exemplifying the power which knowledge and a right use of the reasoning faculties confer ; unenlightened as was their epoch by an insight into the method, the uses, and the motive of a sound philosophy. But had the consum-



mate genius of Aristotle been free to explore the penetralia of the human structure, and directed to the œconomy of man's organization in comparison with that of animals, it is scarcely probable that he would have anticipated Harvey or Asellius; since, (so gradual is the march of truth,) the principal facts which form the bases of their grand discoveries lay sterile in the hands of the original observers\*.

The surgery of the ancients was purely mechanical, suggested by such crude observations of the phænomena of local injuries and diseases as persons ignorant of anatomy might find opportunity for making. This polar star, by which alone their course could be directed, was to them "dark and silent." But there were doubtless then, as now, minds of various orders employed in penetrating the mists by which they were enveloped. Some ardent and adventurous spirits, by whatever impulses directed, assuming the hazardous office of pioneers in the field of discovery, would either win the confidence or impose upon the credulity of their companions; or, by a glaring exposure of their errors, open a way for the advancement of more cautious and contemplative observers. And so true a picture is this of the progress of knowledge, even in our days of maturer science, that it would ill become us to weigh with a scrupulous rigour the contributions, or to judge harshly of the fallacies, of those who in

\* Appendix, *Note A.*



its infancy were condemned, in the beautiful language of Lucretius,

*“Errare, atque viam palantes quærere vitæ.”*

It is, in truth, with a feeling of surprise, that, upon many important subjects, a candid inquirer discovers such various and accurate knowledge to have been attained as may be gleaned from a reference to the surgical writings of HIPPOCRATES, CELSUS, and GALEN.

Haller expresses his admiration at the fulness and accuracy of Hippocrates in his description and arrangement of the different species of dislocation. And although in his treatise on injuries of the head he denudes the bone, on suspicion of its being damaged, and directs the fissure of the skull to be eradicated to obliteration, he is careful to lay down and warn us of the course of the sutures, ingenuously confessing that he had mistaken a fissure for a suture. It is to him we owe the original observation, that an injury of the brain paralyses the opposite side of the body. Celsus first describes the breaking up or dispersion, as well as the depression, of the cataract with the needle; and his account of the operation for lithotomy is the germ of the present most approved section, although he excludes all patients under nine and above fourteen years of age from the benefit of the operation. Galen's proudest contribution to surgery was the discovery of the true contents of the arteries. *“Primus, puto, coæ-*



*vorum arterias incidit,*” says Haller. But Celsus and Galen, it must be admitted, are in relation to surgery little better than epitomists of Hippocrates, the father as well of surgery as of medicine\*.

The style of Celsus is yet a model of perspicuity and elegance; and Galen was not only the best physician and critic of his time, but the only distinguished physiologist of the Roman æra. The originality and graphic power of his description of the special anatomy and physiology of the human hand are without a parallel †.

Celsus, there is every reason to believe, never practised surgery, and Galen’s surgical practice was limited to an attendance on the gladiators wounded in the games of his native city of Pergamus, before he quitted it for Rome in his twenty-eighth year. Their stores were drawn from the Greeks,—that noble nation, to whose congenial soil science, arts, and literature were alike indigenous. Nor was imperial Rome, so long the mistress of the world, distinguished throughout all her splendid history by the possession of a single surgeon whose name is worthy of record. The profession of medicine indeed was in no esteem, and its cultivation was discouraged among the Romans. Cato the Censor held it in such contempt as to in-

\* “Ego quidem etiam majori jure chirurgiæ parentem dixero.”  
—*Halleri Bibl. Chir. Hipp.* lib. i.

† See Kidd’s Bridgewater Treatise.



terdict its study to his son, who died prematurely \* ; probably entertaining opinions similar to those which are expressed with such irreverent vigour by our Dryden † :

“ Better to hunt in fields for health unbought,  
Than fee the doctor for a nauseous draught ;  
The wise for cure on exercise depend ;  
God never made his work for man to mend.”

The treatise of PAULUS, a native of Egina, who was a practitioner of surgery, and a travelled observer of its state and condition in the seventh century, contains the most complete body of the art on record previous to the revival of learning.

Paulus professes himself a compiler. He divides the tunica vaginalis in hydrocele, burns the fistula lacrymalis to exfoliation, distinguishes the hernia from rupture and from dilatation of the peritoneal sac, and operates only in the latter case, when he also extirpates the testis. After Hippocrates and Galen, he pronounces the sudden evacuation of the fluid in ascites fatal. He distinguishes the true and spurious aneurism, does not interfere with the larger arteries, but ties the superficial branches of the head and extremities above and below the wound or aneurism. He also describes, after Antyllus, the operation of bronchotomy.

\* Appendix, Note B.

† Epistle to John Dryden.



In no department of knowledge was the long and dreary period of what are emphatically called the "dark ages" more blank and desolate; and for a period of eight centuries surgery shared the common fate of science. From the overthrow of the Roman empire, until the revival of literature and the arts in Europe, it was exclusively in the preservation of the Arabians, who practised physic and surgery in common, although prohibited by their religion from dissecting dead bodies. Their medical knowledge was essentially derived from the old Greek writers, many of whose MSS., preserved from destruction at the burning of the famous Alexandrian Library A.D. 640, they garbled and put forth as original productions. Throughout Europe the practice of medicine was chiefly in the hands of the clergy; and that of surgery, from which the priests were restrained on pain of excommunication by repeated Papal edicts, was consigned to Jews, women, and illiterate pretenders. To the Italian College of Salernum near Naples, erected into an university by the Emperor Frederic II. early in the thirteenth century—the first Christian university in Europe—is due the honour of the revival of medical learning, by its translation of the Arabian MSS., as well as the Arabian copies of the Greek authors, into the Latin tongue. A constant communication between these countries had been kept up by the education of the Salernian professors in the



Arabian schools, and hence the Italian physicians became the restorers of surgery in modern Europe.

LANFRANC studied at Lyons, and removed to Paris A.D. 1295. He was opposed to lithotomy and the operations for hernia ; and he disapproved the trepan, because more got well without it\*.

The revival of anatomy is marked by the work of MUNDINI, professor of Bologna, who in 1306 performed the first dissection of a human subject recorded in the Christian æra.

GUY DE CHAULIAC, physician to Pope Clement V., the last and best of the reformed school of Albucasis, practised first at Lyons, and afterwards at Avignon. Guido reduced surgery into a system in 1363, and gives a succinct history of the state of the profession in his time. He tells us that there were five sects. The 1st, followers of Roger and the “ Quatre Maitres†” who applied poultices to all wounds indifferently ; 2nd, those of Brunus and Theodoric, who in the same cases used wine only ; 3rd, those of Guglielmus de Saliceto and Lanfranc, who kept a middle way, and applied ointments and soft plasters ; 4th, Germans, who attended the wars, and used charms, potions, oil, and wool ; 5th, women, who in all distempers had recourse only to saints‡.

Guido first speaks of the removal of a portion of

\* See Appendix, Note C.

† Appendix, Note D.

‡ Freind's History of Physic.



brain, and the patient's recovery, and prefers the operation for hernia by caustic to the knife or cauterity, asserting that he had seen it performed thirty times with success.

PITARD, surgeon to St. Louis, instituted under royal authority the Faculty or Society of Surgeons at Paris in 1268, and thus laid the foundation of the artificial distinction between surgery and medicine which subsists, whether for better or worse, in the capital cities of Europe at the present day\*.

But long after the stirring spirit of the Crusades had roused Europe, and awakened the arts and sciences from their profound lethargy, surgery remained in a state of deplorable degradation. The chivalrous spirit of the holy wars had confided the practice of it to women, and the faith and hopes of the wounded knight reposed exclusively on the skill of his mistress. I pass over as little worthy of narration, save as a picture of "the age and body of the time," the squabbles for pre-eminence between the ecclesiastics and the lay professors; the prohibition laid upon the priests by the famous Council of Tours, and various Papal edicts, to shed blood, or to be present at the performance of any operation; of the lay surgeons to contract marriage, and to hold their meetings as hitherto in the churches; and the alternate vexations which passed for nearly two centuries

\* Appendix, Note E.



between the physicians and the *togati*, or surgeons of the long robe of the new Society of St. Cosme and St. Damien\*, until at length the latter were permitted to join the University. But the introduction of the barbers, a source of constant and bitter feud between the high contending parties, is too curious an interlude to be altogether omitted. It would be an unpardonable oversight in the briefest chronicler of our art to suppress the mention, however unpalatable, of the long and intimate incorporation of our fraternities, and I cannot avail myself of the soft Dean's example,

“ Who never mentions hell to ears polite.”

The origin of the barber-craft is as follows: By a Bull of Alexander III. the neglected regulation of the tonsure was revived, and strictly enjoined; this obliged the priests to require the services of a barber, and thus their servants became barbers. By constantly attending upon the only informed men of that day, the barbers picked up some knowledge of physic; and the priests, being confined to their cloisters, employed them to visit their patients and perform the minor operations. Hence they learned to bleed, bandage, and dress wounds, and became regularly installed as subordinate medical attendants on families. The barbers, always a mercurial race, animated by

\* Appendix, Note F.



the patronage they received, became encroaching and presumptuous; and one, the famous Olivier le Dain, or "le Diable," as he was more commonly called, was so distinguished as to share the Royal confidence. But they were in turn subject to annoyance from the surgeons, to whom they were offensive as rivals, and the physicians, who used them as artillery to harass the surgeons. Under a pretext of patronage, the physicians at length obtained permission to educate the barbers, and delivered lectures to them in Latin, a language of which they were ignorant. Ultimately, by an edict of Louis XIV. they were united by a regular contract with the surgeons, as subordinate or sub-assistant dressers. It was as late as the year 1745 that we dropped the honours of the connection. An Act was passed in the reign of George II. "for separating the surgeons and barbers into two distinct companies;" they had been united into one commonalty by Edward IV. Italy, the mother of the sciences, was exempt from these turmoils, the professors in all their celebrated schools employing alike their minds and hands in the cure of diseases.

We now turn to a brighter page. It was in the early part of the sixteenth century that ANDREAS VESALIUS, a native of Brussels and a pupil of Jacobus Sylvius, the discoverer of the valves of the veins, published



at Paris his splendid work, illustrated by the pencil of a master\*, “*De Corporis Humani Fabricâ*,” the first systematic treatise of anatomy. Vesalius, then in his twenty-second year, questioned the authority and corrected many of the errors of Galen. He was physician to the Emperor Charles V., and for seven years held the anatomical chair of the University of Padua. The premature and melancholy termination of his career is well known. The celebrated anatomists Fallopius and Eustachius were contemporary with Vesalius; and Fabricius ab Acquapendente, eminent also as a surgeon, was his pupil and successor in the University.

At the same period flourished AMBROSE PARÉ', the restorer of surgery, as Vesalius of anatomy. An uneducated man, of a bold and enterprising genius, he distinguished himself at an early age in the wars of France. His first feat, while young and unknown, at a skirmish near Boulogne, toward the close of the reign of Francis I., was characteristic. He extracted a lance-head from the forehead of the Count d'Aumale, son of that king, which was so deeply infixèd and buried by the swollen integument that the surgeons had pronounced the wound mortal†. Paré read Galen by aid of an interpreter. His anatomy was that of Vesalius; his instruments are copied from the Greeks, and much of his surgery was derived from the Italian

\* Appendix, Note G.

† Life of Francis the First.



school. His first work was on midwifery: he performed the Cæsarian operation with success.

He mentions cases of recovery from injuries of the head, with loss of substance of the brain; the fracture of the internal table of the cranium, the outer remaining sound, and his successful division of the dura mater for the removal of effused blood and pus. He recommends repeated bleedings in concussion of the brain, and relates a fortunate application of the trephine as late as the seventeenth day from the injury. He speaks of abscess of the brain and of the fungus cerebri, its amputation under a misconception of its nature, and the recovery of the patient. He cured a formidable wound of the Duc de Guise, the lance having entered below the eye and re-appeared under the ear of the opposite side. His treatment of a wounded nerve in venesection, probably phlebitis, in the person of Charles IX., led that king to preserve his life in the massacre of St. Bartholomew. He gives cases of recovery from wounds transfixing the body, but rejects the operation for inguinal hernia, because, as he conceives, emasculation is unavoidable.

The improved treatment of gun-shot wounds, by substituting cataplasms and mild applications for that of boiling oil, which had been hitherto invariably used, under an equally mistaken notion of the nature of such injuries and the effects of such a remedy, was



a main step toward civilization, for which the profession is indebted to Ambrose Paré. But the ligature of the arteries after amputation, suggested by his aversion to the actual cautery—the greatest discovery ever made in practical surgery—forms the key-stone of his reputation, and would of itself immortalize his name.

He advocated the ligature on the ground of its greater security than the cautery of any description. The practice was stoutly assailed by his successors on account of its tediousness and difficulty, and the great effusion of blood during its performance: and if we call to mind the disadvantage attending the want of an efficient tourniquet, and the total ignorance of the circulation then prevailing, which would lead them to include the veins as well as arteries in their ligatures, we may conceive it open to these objections under the most skilful hands. The courage and firmness indeed then requisite, as qualifications for an operating surgeon, must have been of a higher quality than now, when the knowledge of anatomy, and its elucidation by that of physiology, has armed us against surprises from unforeseen sources, and, in this department especially, afforded the surgeon a calm vantage ground over the results of casualty and disease.

Paré, the surgeon of four successive reigns, the companion of princes and the friend of Sully, has



been designated the "Hippocrates of France." Such was the confidence which the army reposed in him, that the besieged knew no fear if it chanced that Paré was within their walls.

He was undoubtedly one of those remarkable men, "*homines centenarii*" as they were called by Scaliger, who exist but once in a century, but who when they do exist, elevate the country in which they are born, and the age in which they live\*. The habit of observing, thinking, and acting for himself, the source of his reputation, drew upon him the rancorous hostility of his contemporaries,—so invariably the portion of genius in a dark age, that it only serves to confirm the favourable judgement of posterity.

Surgery languished after the death of Paré. GUILLEMEAU, his pupil and editor, FABRICIUS at Padua, and SEVERINUS at Naples, may be mentioned however as distinguished cultivators of the art, and with peculiar respect FABRICIUS HILDANUS of Berne.

The discovery of the circulation by our great countryman WILLIAM HARVEY, whilst a student at Padua, had a more immediate and important influence on the progress of anatomy and physiology than on that of physic or surgery. But as it was the first emanation of British genius, so it was beyond all question the most splendid in its ultimate effects upon medicine and mankind. Well might the learned Gassendus, when

\* Butler's Address to the Proprietors of the London Institution.



his pertinacious opposition yielded to the arguments of Pecquet, express joy at coming to the knowledge before he died of the two important discoveries of the circulation and the absorbent system, adding, that he looked upon these two truths, which prove one another, "as the two poles upon which all medicine for the future ought to turn\*."

Surgery appears to have had no earlier representative in this country, of any note, than JOHN ARDERN, of Newark, who removed to London in 1370. Dr. Freind speaks of him as "the first man who revived the art of surgery in this nation." He appears to have had an empirical reputation for the treatment of fistula.

THOMAS GALE, the most eminent London surgeon of the sixteenth century, had served in the army of Henry VIII. at Montreuil in 1544, and in that of king Philip at St. Quintin in 1557, and was still living in 1586. He was a considerable, if not an original writer, on practical subjects, and dwelt especially on the methodical and scientific study of the art, which he displayed a laudable anxiety to rescue from illiterate and ignorant pretenders, by whom it was then, as it has since been, degraded.

This reasonable solicitude appears to have dictated the original Charter of Incorporation of Edward IV.,

\* Freind's History of Physic.



in the preamble of which occurs the following passage :

“ Also, how by the ignorance, negligence and unskilfulness of some such barbers, as well freemen of our aforesaid city, as of others being foreign surgeons, and not freemen of the same city, and daily resorting to the same city, and not being sufficiently skilled in the mystery of surgery ; very many and almost infinite misfortunes have hitherto happened to divers of our liege people by such barbers and surgeons, through their defect of knowledge in healing and curing wounds, blows, hurts and other infirmities ; by means whereof some of our liege people have gone the way of all flesh, and others, for the same cause, are so unsound and incurable as to be forsaken by all men ; and it is to be feared that the like evils, or worse, may hereafter ensue in this behalf, unless some fit redress in the premises is by us speedily provided.”

JOHN WOODALL, a member of the Surgeons' Company, was elected surgeon to St. Bartholomew's Hospital in 1612, and published, with a collection of his several works in 1639, a treatise on Gangrene and Sphacelus. He recommends amputation through the mortified in preference to the sound parts, having been first led to adopt this practice in a case without alternative, and asserts that he had since employed it in more than a hundred instances, in not one of which did



the mortification spread or the patient die. He advises tying the large vessels after amputation, *if* it can be accomplished. Woodall asserts that for the twenty-four years during which he had been surgeon to St. Bartholomew's, he had not lost a single patient from hæmorrhage after amputation ; and further, that for the fifty years in which he had practised surgery, he never once witnessed in England or elsewhere the cruel practice of burning the living stump.

RICHARD WISEMAN, sergeant-surgeon to Charles II., appears to have been a pains-taking and candid man, well reputed in England, and unambitious of a higher reputation ; possessing withal a right loyal confidence in the supremacy of the king's touch in scrofula, a royal prerogative which had been exercised from Clovis and Edward the Confessor downwards.

His character, as the reputed father of English surgery, has been overrated. His attention was principally directed to the treatment of wounds, ulcers, and tumours. He was deeply tinctured with the superstitions and barbarities of the bygone times, a staunch friend to the cautery and red-hot knife, and the liniment prepared of live puppies steeped in boiling oil !

During the long protracted reign of Louis XIV., distinguished in the French annals for the elegancies that embellish peace, the splendour that emblazons victory, and the spiritual fascination, '*l'art de se faire briller,*' of polished society, our noble art languished



in obscurity ; and so striking was the contrast which this period presented to that of the succeeding reign, that they have not inappositely been termed the *iron* and the *golden* age of surgery.

“At this period,” says the Editor of the Memoirs of the Count de Brienne, “the sciences were far from responding as they now do to the patronage of the administration. Surgery was less advanced than medicine ; an absurd prejudice impeded the only department of the healing art which has since made great progress. As late as 1668 the surgeons were under the jurisdiction of the first barber of the king. FELIX, who at a later period operated on Louis XIV. for fistula, represented to his Majesty the great inconvenience of this arrangement, and procured its reform. The writers of his time inform us, that for two months before the operation on Louis, he continually rehearsed it in the hospitals of Paris. The simplest operations of surgery were in fact dangerous : the most celebrated surgeons were not sure of a successful venesection : this is confirmed by the privilege granted to the king’s surgeon to dismiss any one he pleased from the presence when bleeding the King, or any member of the royal family. Felix, celebrated as he was, always availed himself of the privilege, while Dinois, surgeon to the Queen and children of France, piqued himself on never having claimed it\*.”

\* *Eclaircissemens sur les Mémoires de Brienne.*



Of this same Felix, the predecessor of Mareschal, the friend as well as surgeon of Louis XIV., Madame de Sevigné relates that, being called upon to bleed a courtier who had fallen and bruised himself in the King's apartment, he so wounded the artery that a great operation was on the instant required. "I know not," says the accomplished writer, "which was most to be pitied, the unfortunate subject of such an operation, or the first surgeon of his Majesty who opened the artery in bleeding\*."

In the eighteenth century surgery assumed a more elevated rank than it had ever held in the civilized world. In France, MARESCHAL and LA PEYRONIE laid the foundation of the French Academy; and the contributions of PETIT, its first director and president, LE DRAN, LOUIS, QUESNAI, MORAND, HEVIN, and a host of emulative and ardent men, associated by the humanizing spirit of practical science, excited the admiration of surrounding nations, and secured for themselves and their labours the gratitude of posterity.

The value of the French Memoirs, commenced in 1743, consists in the copious assemblage of original cases, and the practical illustration of them by comparison and induction. All that regards historical matter of fact is excellent, and this is their principal and peculiar merit. Their defects are those of the

\* See Appendix, *Note I.*



time, resulting from an imperfect knowledge of the laws of life, and the darkness which enveloped those of disease. The lamp of Chemistry was not yet lighted, and the absurd crudities still prevailing of the humoral pathology inspired false notions of the doctrine of inflammation, and rendered all theoretical explanation of its phænomena mystical and unprofitable.

JEAN LOUIS PETIT, a native of Paris, the second renovator of surgery in France, was initiated in anatomy by the celebrated De Littre, his father's friend and inmate, while yet a boy. So indefatigable was his ardour in the pursuit of professional knowledge, that he was often found by Mareschal the surgeon-major, asleep on the steps of La Charité, at the dawn of day, while awaiting the opening of the doors.

Petit followed the army hospitals in Louis XIVth's Flemish campaigns, towards the close of the seventeenth century, demonstrating anatomy during successive seasons at Lisle, Mons, and Cambray. He was admitted master in surgery at Paris in the year 1700. There he delivered public courses on anatomy and the operations of surgery, and eventually became Provost of the College. He was specially appointed by Louis XV. Director of the Royal Academy of Surgery, on its establishment in 1731. Petit was uneducated; so much so, that at the age of fifty he commenced the study of the Latin language. He died in



the middle of the century, in his seventy-seventh year. Haller says of him, "*Ingenio vir valuit, deinde usû.*"

That he was a man of great natural endowments, of quick and penetrating genius, as well as mature observation, his papers read before the Academies of Sciences and of Surgery abundantly prove. His Treatise on the Diseases of the Bones, which was among his earliest labours, still retains the character of a standard authority, especially as regards fractures and morbid changes, and discovers a grand design in its conception as well as talent in its performance.

His was the first account of the mollities ossium. Petit's screw tourniquet was no unimportant contribution to operative surgery, and beyond a doubt has saved many lives. His papers on the division of the frænum linguæ in infants, on the ruptured tendo achillis, on the fistula lacrymalis, and on various practical subjects and details, discover the simple and profound views peculiar to a master-mind; but most especially his memoirs, illustrated by experiment, on the means employed by nature for the suppression of hæmorrhage, and on aneurism,—subjects on which our countrymen have since enlightened the world.

The glory of the revival of surgery was not however exclusively due to the French nation; we cannot overlook the Dutch school and the just claims of LAURENCE HEISTER, a contemporary of Petit, the pupil of Ruysch and Rau of Amsterdam, and subse-



quently Professor of Anatomy and Surgery in the University of Altorf and Nuremberg.

WILLIAM CHESOLDEN, born in 1688, was of a Leicestershire family. A pupil of Cowper, he lectured on anatomy in London for twenty years, and was for a similar period one of the Surgeons of St. Thomas's Hospital. His success and reputation as a lithotomist were unparalleled, and rendered his name famous throughout Europe. A deputy from the French Academy was sent expressly to witness his operation, and he had the honour to be enrolled the first on the list of its foreign members. Cheselden's was the first operation for the congenital cataract, and his interesting observations on the accession of sight to a boy fourteen years of age are recorded in the Transactions of the Royal Society, of which he was early a distinguished member. He died at the age of sixty-four, of apoplexy; having enjoyed among other distinctions the intimacy of Alexander Pope:

“ Weak though I am of limb and short of sight,  
Far from a lynx, and not a giant quite,  
I'll do what Mead and Cheselden advise,  
To keep these limbs and to preserve these eyes\*.”

Cheselden was a man of enviable simplicity and integrity of character, and of sterling sense, which his publications and his life equally exemplify.

PERCIVAL POTT, born in London in 1713, was the

\* Epistle to Lord Bolingbroke.



last and most illustrious representative in this country of the surgery of the eighteenth century. He was a pupil of Mr. Nourse, one of the Surgeons of St. Bartholomew's Hospital, and served that noble institution, man and boy, as he used to say, for nearly fifty years. A gentleman by birth, education and habits, Pott was systematically opposed to the coarse and harsh modes of treatment, and the yet frequent use of the actual cautery, which prevailed at the time of his entering the profession, and he introduced more rational as well as more lenient methods. At the age of forty-three he had the misfortune to meet with a bad compound fracture of his leg, and by the admirable presence of mind with which he summoned his experience to his aid, succeeded in saving the limb. It was to this accident, or rather the confinement which it occasioned, that we are indebted for the stores of information upon the most important subjects which his works contain; for the reception given to the 'Treatise on Ruptures,' composed during that period, probably first discovered to himself the powers which he possessed, and doubtless operated as an incentive to his many subsequent publications.

The works of Pott are so well appreciated, form so essential a part of every surgeon's library, and, indeed, were so long the text-book of the profession, that it would be as needless to recapitulate them as to discuss their general and singular merits. The highest



tribute to their intrinsic excellence is the estimation which they enjoy and the influence which they exercise at this day upon the practice of surgery. As an author, Pott is pre-eminent for the vigour, perspicuity, and elegance of his style.

In another and distinct category, did the limits of this Discourse permit, I should here mention the beneficial influence on the progress of surgery derived from the anatomical schools of Ruysch, Winslow, Albinus, Morgagni, the illustrious Haller, the first Monro, and William Hunter. Many of the disciples of these distinguished men were afterwards eminent for their surgical attainments in various countries of Europe. But I content myself with observing, that the correspondence of anatomy and scientific surgery, in their rate of proficiency, is not less uniform than remarkable.

We have now arrived, Sir, at that crisis of our history which ushers JOHN HUNTER upon the stage ; but the Hunterian æra, the most memorable in the annals of our science, dates little earlier than the commencement of the present century. Shakspeare's Marc Antony says,

“The evil that men do lives after them,  
The good is oft interred with their bones.”

If to Hunter any evil could be imputed it was buried with him ; his great achievements in the cause



of our science, the proudest trophies of his fame, are posthumous. For with the solitary but splendid exception of the operation for the cure of the popliteal aneurism, how imperfect a title would the most elaborate recital of his merits as a surgeon prove, to the admiration and gratitude associated with his name!

No, it is to his discoveries as an observer, sagacious, comprehensive and profound, of the animal machine and its œconomy, in health and in disease,—his development of the phænomena which characterise inflammation in all textures, in its several aspects, stages and processes, of the signs by which they are indicated, the laws by which they are governed, the consequences to which they lead, and the modes of treatment by which they are influenced and regulated to subserve nature's and our purposes,—it is to these that we point with a national and honest pride, as to the column upon which are engraved in imperishable characters the surgical triumphs of John Hunter.

He was not remarkable either for his skill as an operator, or his facility of communicating knowledge as a teacher. He was not a scholar; and neither the arrangement of his thoughts, nor the language in which they are clothed, is free from many and obvious exceptions. But the habitual character of his mind, which in the largest sense imparted itself to his works, was acutely observant, profoundly contemplative, capable of large and comprehensive views of na-



tural phænomena, and endowed with a microscopic faculty of seizing and analysing their constituent parts and bearings. Grant that his inductions did not always bear him out, that his combinations were sometimes inaccurately formed, and his announcement of general laws sometimes premature; yet where in the calendar of time shall we look for an equal in the compass, the variety, or the depth of his researches into the mysteries of animal life, or for consequences such as those that have resulted from his labours to universal pathology?

When I claim him as the father of modern surgery, I am far from meaning to imply that our brethren the physicians have no part or lot in him. It is not in my province to point out the steps by which they have risen to their justly merited eminence. "Pardon me," says one of the most enlightened of their body, "if I hold that Hunter was only nominally a surgeon: he belonged to no isolated district of our profession, and he is at this moment rendering a peculiar aid to the labours of physicians\*."

The great improvement in our science derived from this source during the present century will be an enviable theme for future orators, when the lapse of a few years shall have rendered the generation that adorns it the legitimate property of the historian.

It will then appear that the progress of surgery in

\* Extract from a note addressed to me by Dr. Latham.



England has been rapid and glorious beyond all precedent ; that the successful cultivation of surgical pathology, and the skilful practice of operations founded upon a more correct anatomy and a sounder physiology, have pre-eminently distinguished the *Hunterian* school. In saying this without reservation, I am not unmindful of the proper and acknowledged merits of the schools of France, Germany, and Italy; of Desault, of Richter, and of Scarpa ; nor of our claims to class the latter, as well as the founders of the American school of surgery, among the disciples of Hunter.

In a bare enumeration of the practical subjects which have been, as it were, recast, it would be impossible to omit the mention of the several forms and modes of inflammation, including tumors and morbid growths ; wounds and fractures of all descriptions ; the pathology of the vascular and nervous systems, of hernia, of the eye, the joints, the excretory and sexual organs, their special diseases, and the treatment of all respectively. Last, but not least, let me add, the better understanding of the relations and reciprocal influences of the nervous and vascular systems, of which the due equipoise constitutes health, and the derangements, more or less reciprocal, symptomatize, if they do not constitute, disease.

Can it be questioned that these grand additions to our scientific and practical knowledge,—with confi-



dence I appeal to those most competent to decide,— have been neither more nor less than the carrying out and applying the principles of John Hunter? It will not be the least of their honours who have been engaged in the development of those principles, that they have been eager to look at nature with his eyes, and to appreciate and confirm the truth and simplicity of his views.

Some of these, to whom the profession lies under deep obligations, have already left us, and live in our fresh memories, and the entire *dramatis personæ* will ere long have wrapped their mantles around them and become the Oracles of future ages.

Alas! a month has scarcely elapsed since a member of the Council of this College was almost suddenly taken from us in the prime of life, and health, and usefulness. He was my friend; and in a brief notice of the event I must excuse myself from the performance of a duty, which in ordinary circumstances would fall to my lot, but which a calamity so recent and so unexpected would render unsupportably painful. I am sure that in this audience many hearts throb in unison with mine when I pronounce the death of Henry Earle a public calamity. His knowledge was sound and practical; his zeal was tempered with discretion; he was a skilful surgeon. Of a robust frame and active temperament, he possessed the unspeakable charm of a cheerful temper, and the invaluable qualities of a



benevolent heart ; and in all the relations of life he was conspicuous for honesty of purpose and sincerity of conduct.

Years are required for the formation and development of so valuable a character, and for the reparation of its loss to society ; and such events, ere the crisis of worth and fame is attained, are among the most astounding of those mysteries of which it is the will of the Almighty that we should remain in ignorance.

If to have lived in advance of the time be, as has been said, the truest test of genius, let Hunter be tried by this standard. We have enumerated the more obvious only of his anticipations of the march of knowledge in the department of surgical pathology and therapeutics ; but it would be difficult to name any subject of universal medicine which has not received elucidation from the influence of his doctrines. The phenomena of life, organization, and instinct in all classes of animals, in their several varieties, and in all phases of their formation and existence, his genius brought to the illustration of the œconomy of man. He stood alone in the wilderness, and under his hand it assumed the beautiful form and order of a garden. I need not say how successfully it has since been cultivated and enriched by the erudite labours of Blumenbach, and how immeasurably extended beyond its pristine confines by the extraordinary sagacity



and skill, the indefatigable ardour and diligence of the illustrious, may I not add immortal Cuvier.

Even of that sublime science of these our days, which connects the history of our planet with that of its extinct races, which has based their classification on the anatomical correspondence and uniformity of design, manifest in the organic remains of periods remotely antecedent to the creation of man and the existing types of mortality, it is indisputable that Hunter had a prophetic vision. For proof of this I may refer not only to his rich fossil collection, including at his decease about 1050 specimens, but to his interesting posthumous paper in the Philosophical Transactions for 1794, on the Fossil Bones found in the Caverns of the Principality of Bayreuth. In this paper he compares these specimens with their recent analogues, and shows that they differ both from them and among themselves.

He alludes to the different climates and localities of the globe to which animals are more or less confined, or their geographical distribution, which, considered in relation to fossil remains, elucidates by implication the changes of temperature to which different parts of the earth have been subject at different periods.

With more distinctness and detail he points out the evidence which fossils afford of the alteration of the condition of the earth's surface, as dry land or



submerged ; and, by frequent allusion to the many thousand years which must have elapsed while the earth was the theatre of these changes, he seems to have fully appreciated the necessity of an ample allowance of past time to account philosophically for the changes in question. Mr. Clift, who transcribed the manuscript of this paper, informs me, that it was originally dictated, not "many thousand years," but "many thousand centuries," and he preserves the copy of the letter of the friend of Hunter\*, who advised the change of expression in conformity with the popular notion of the world's age. Geologists now know that the latter expression is nearer the truth. I will only further remark, that, of three hypotheses which he suggests for the occurrence of the countless bony remains in the Gailenreuth caverns, he inclines to that which has been adopted by the distinguished Professor Buckland for the analogous collection in the caves of Kirkdale, viz. that the caves were the habitual retreat of the extinct species while living ; that there they brought the carcasses of their prey, and fed ; and that there they came and died.

This interesting paper, if candidly perused, must, I think, be considered as the dawning of that glorious daylight with which fossil anatomy, the handmaid of geology, has since overspread the summits and penetrated the depths, and thus illumined the

\* The late Major Rennell.



history of “the earth, and of the waters under the earth.”

Our minds sink prostrate before conceptions of such awful grandeur and sublimity as the lapse of thousands of centuries, the disappearance and succession, not of individuals only, but of families,—not of tribes, but of nations! But mind, like matter, is imperishable,—its capacities and powers infinitely various, and, for aught we know, infinitely perfectible. We are raised and fitted to the conception of the boundless extent of the mental faculties, as of time and space, by our unceasing observation of the increase of what remains to be known beyond the increase of knowledge. Since it has pleased the great Author of Nature to ordain that man’s powers should be exalted by the sense of extension, as his hopes are encouraged by the sense of progress—

“*His ego nec metas rerum, nec tempora pono :  
Imperium sine fine dedi—*”\*

is it irrational to believe that in the revolution of ages our hemisphere may again be visited and gladdened by Bacons and Newtons, Shakspeares and Miltons, Hunters and Cuviers, who are even now maturing in the womb of time, whilst their great prototypes repose in the sunshine of eternal beatitude?

\* *Æneid*, lib. i.



Our faculties are inadequate to the conception of ultimate perfection. We live and have our being in progress, and our imagination delights to contemplate "the valley of the shadow of death" as the avenue to higher capacities and purer sources of enjoyment.

"So sinks the day-star in the ocean bed,  
And yet anon repairs his drooping head,  
And tricks his beams, and with new-spangled ore  
Flames in the forehead of the morning sky."\*

For the analysis and philosophical illustration of Hunter's labours in comparative anatomy and physiology, it is most gratifying to me, as a member of Council of this College, to be enabled to refer you to the interesting lectures delivered annually in this Theatre by our accomplished and zealous Hunterian Professor, Mr. Owen.

But, Gentlemen, the proofs of Hunter's ardent zeal and indefatigable industry in the several kingdoms of nature are open and obvious to all: they are treasured within these walls, and invite your examination. To the single-minded and sincere student of nature they speak the animating exhortation, "Go thou, and do likewise!" for they were accumulated by a spirit as singly devoted to truth, and as free from the taint of a less ingenuous motive to exertion, as is

\* Milton's Lycidas.



compatible with the condition of humanity ; and they are consecrated by the homage, which is the instinctive tribute of every liberal mind to one exalted above his species in wisdom, virtue, or talent.

“ *Quidquid ex Agricola amavimus, quidquid mirati sumus, manet ; mansurumque est in animis hominum, in æternitate temporum, fama rerum\*.*”

\* Tacit. Agricola.







## APPENDIX.

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[*The Oration is printed as it was written; a few passages of detail were omitted in the delivery.*]

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*Note A.*—ACCORDING to Rufus Ephesius, Herophilus marked the difference between the *neura*, *i. e.* distinguished the nerves proper from tendon and ligament, as subservient to sensation and voluntary motion, and originating partly from the brain and in part from the spinal chord. He also described, as Galen informs us, the lacteal absorbents as veins of the mesentery not passing to the liver, like its other vessels, but terminating in certain glandular bodies. He gave the name of ‘arterial vein’ to the pulmonary artery, and of ‘venous arteries’ to the pulmonary veins.

Nemesius, Columbus, Servetus, Cæsalpinus, Acquapendente, and others were anticipators of the discovery of the circulation, though ignorant of it. The structure of the heart and its valves, the valves of the veins, the pulmonary circulation, and the anastomosis of arteries are accurately described by them, taken collectively; their descriptions stop short at the intercourse or communication between the arteries and veins, so that they were thrown upon the notion of an euripus, or flux and reflux.

*Note B.*—“Cato was a worse quack than Dr. Hill: his medical receipts, which may be found in his treatise ‘of country affairs,’ are either very simple or very dangerous; and fasting, which he exploded, is better than all his prescriptions.” *Langhorne’s Plutarch, note in life of Cato the Censor.*

*Note C.*—“Lanfranc,” says Dr. Freind, “is very much against cutting for the stone, because he had seen instances



where it hindered generation ; he dissuades section and cauteries in a hernia, and altogether disapproves of the trepan ; more he says are cured without it." In the latter, as a round statement, many moderns will be disposed to join him. His objection to section in hernia is founded on the circumstance of its involving castration, which was the practice even in the time of Paré, the inguinal hernia being the species always referred to. The femoral hernia is a comparatively modern discovery. (Verheyen, 1710.) His method of curing hernia was by burning the skin intercepted between two hooks with a red-hot knife, and afterwards destroying the soft parts, even to the bone, with the actual cautery, the testis being protected ! But like Guido he preferred the caustic to either the knife or actual cautery.

The Arabian priests practising surgery considered operations filthy and abominable for the relief of parts on which it was sinful to look. Their successors, the Arabistes, also priests, were infected with the same prudery, under the cloak, real or assumed, of religion. The uction of the sac and its contents, and the removal of the testis in hernia, display more strikingly and fearfully than any other example which could be cited the active hostility which ignorance of anatomy opposed to the progress of surgery.

*Note D.*—The origin of the *Quatre Maitres* is very obscure. They appear to have associated for a charitable purpose, possibly under some religious vow ; their superiority in their art gave them the name of masters. They wrote a treatise containing the results of their experience, of which Guy de Chauliac speaks as a work worthy to rank with that of Hippocrates, and from which he drew his knowledge of medicine. Of this work the last remnant was discovered more than two centuries ago in a useless state in the library of the College of Navarre. Many romantic anecdotes are recorded of the *Quatre Maitres*. Their house in Paris was an asylum for the sick ; they always received their patients masked, refused to visit any, and de-



clined all remuneration. It is probable that the mystery attached to them added much to their fame, and that they engaged in the attendance of the sick either to expiate crime, or to gain a high place in a world of recompense.

We can faintly conceive the veneration paid in an age of superstition to men whose lives were devoted without fee or reward to the diffusion of health, "*le plaisir des autres plaisirs*," among their fellow-mortals.

*Note E.*—See "*Recherches critiques et historiques sur l'origine, sur les divers états, et sur les progrès de la Chirurgie en France*" (Paris, 1744); also a neat historical and argumentative statement of the whole subject in Dr. John Thomson's introduction to his valuable *Lectures on Inflammation*. (Edinburgh, 1813.)

*Note F.*—"At length St. Louis, thinking the surgeons deserving of more respect than merely to be considered as the scholars and underlings of the physicians, formed them into a college, or *confrérie*, about the year 1268, in honour of St. Cosme and St. Damien; and in the church consecrated to these saints, the surgeons for several centuries after were obliged to attend the first Monday of every month, after Divine service, to dress the wounded and lame poor gratis.

"In this manner arose the two classes of surgeons in Italy and France, which have in a greater or less degree existed ever since in most countries of Europe: those who had had a regular education in the school of medicine, and occasionally practised as physicians, and those who without any academical education were originally employed as the servants of the priests, being in fact barbers." See *Observations in Defence of a Bill by Mr. Chevalier*: London, 1797.

*Note G.*—I have taken some pains to ascertain if there was any foundation for the tradition which has associated the name of Titian with the magnificent plates which adorn Vesalius's



Anatomy. Certain it is that they have been the exemplars of the finest anatomical tables since published, and have never been exceeded in picturesque strength, freedom, or accuracy. Cuvier says, "*On a dit que les planches de Vesale avoient été dessinées par le Titien. Si cette assertion est inexacte, ces planches sont du moins l'ouvrage de l'un des élèves le plus distingué de Titien.*" (*Cours de l'Histoire des Sciences Naturelles*, p. 2.—page 21, 8vo.) Blumenbach, in his *Introductio in Hist. Medicinæ Literar.* speaks of the reference of Vesalius's figures to Titian as 'a very probable conjecture.' But Vasari ascribes these drawings in express terms to Johannes à Calcar, who was a scholar of Titian, and whose name is affixed to the portrait of Vesalius in the collection of the London College of Physicians.

Both Leonardo da Vinci and Titian were contemporaries of Vesalius; with the latter he was intimate. Sir Anthony Carlisle informs me, that by the late Mr. Barry the academican, and his friend Monsieur Baretto, the Italian author, the heads in Vesalius's Anatomy were regarded as taken from drawings by Titian. It is a curious fact that the only acknowledgement which Vesalius expresses is general complaint and abuse of his artists; nay, he even says, writhing under the annoyance which they caused him, that he thought himself more unfortunate than the subjects he had procured for dissection.

*Note H.*—"M. Niel tomba l'autre jour dans la chambre du Roi; il se fit une contusion. Felix le saigna, et lui coupa l'artère: il fallut lui faire à l'instant la grande opération. Monsieur de Grignon, qu'en dites vous? je ne sais lequel je plains le plus, ou de celui qui l'a soufferte, ou d'un premier chirurgien du Roi qui pique un artère." (*Madame de Sevigné à sa Fille*, 1689.)



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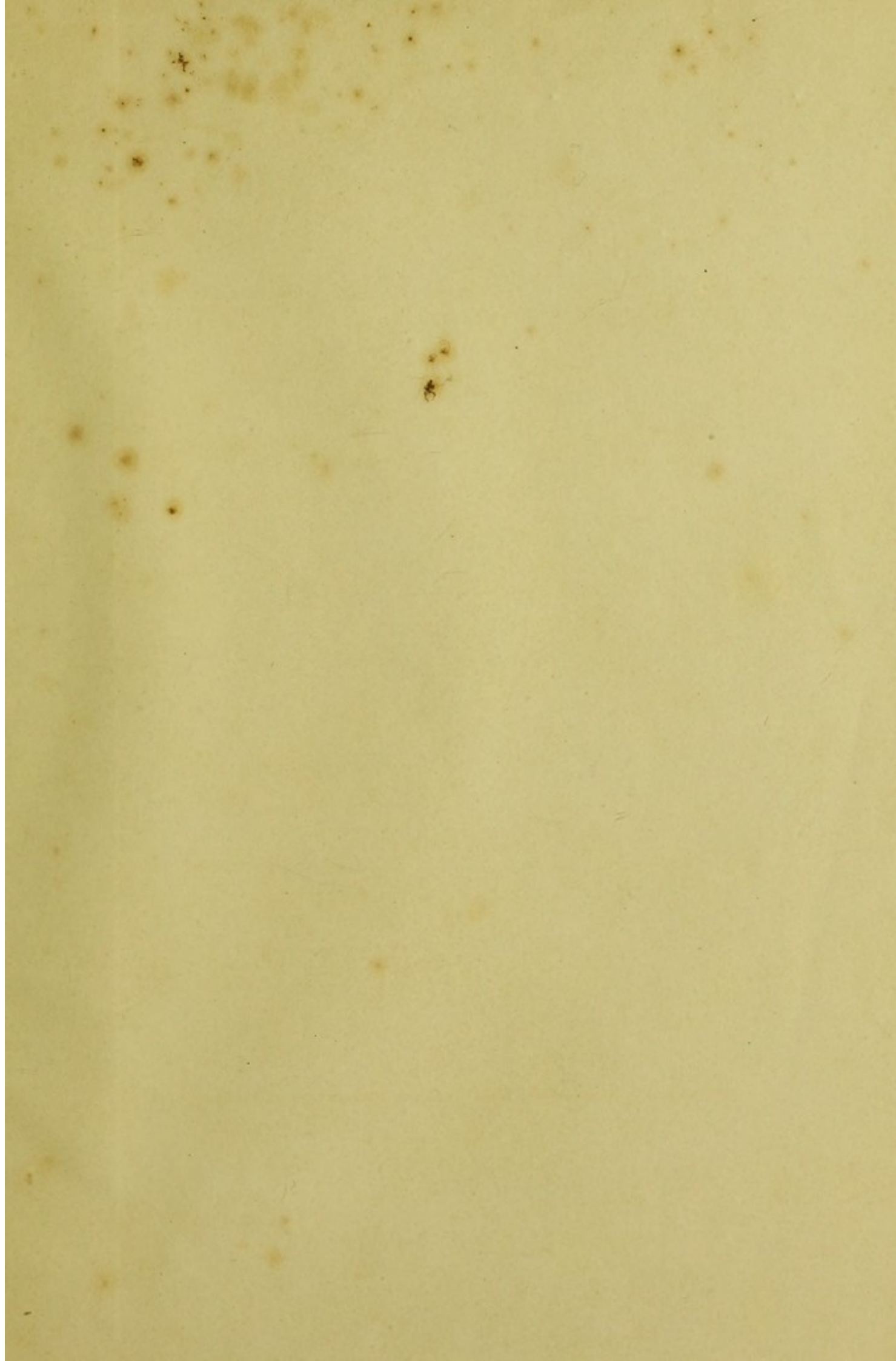
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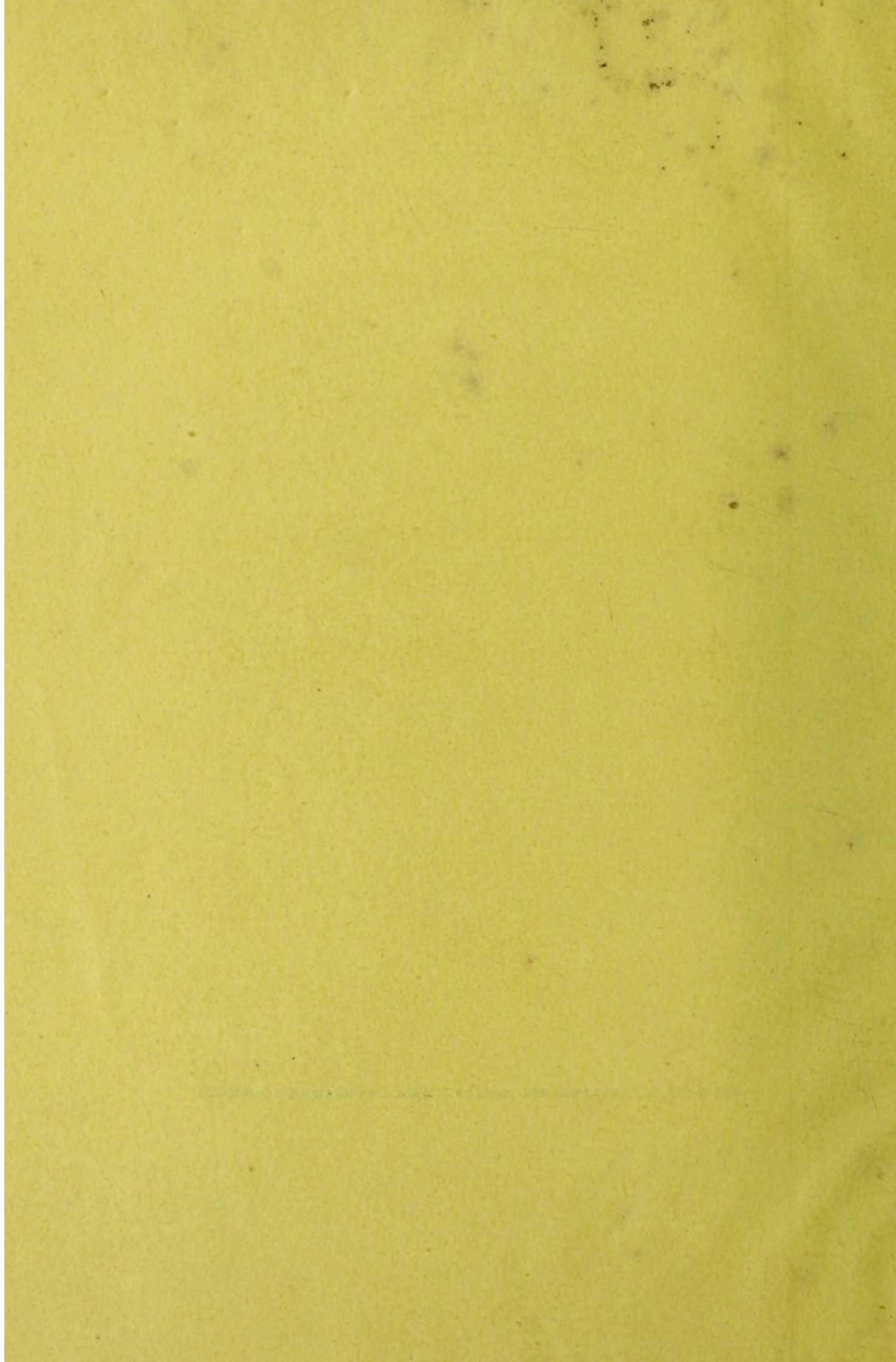














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