Original Articles.

SIR BENJAMIN COLLINS BRODIE, BART.:
A SKETCH.¹

BY JAMES G. MUMFORD, M.D., BOSTON.

A YEAR ago, after publishing an essay on Sir Astley Cooper, I was asked to write something of Benjamin Brodie. I have done so, and the subject has lent itself pleasantly to the task.

Of Brodie I found soon that this generation knows little; he is read seldom by students and other readers of our medical literature, yet the man was in some ways a great man; not so great, doubtless, as Cooper, fifteen years his senior, but a striking figure in his time; as a teacher, sound and resourceful; as a writer, facile and instructive; as a physician, accomplished and successful; a man of the world, broad, lovable, forceful, cultured.

We say that great men in any walk of life must reflect the spirit of their times—and this was true of Brodie as of Cooper. The latter was the contemporary of Nelson, Wellington, Fox and Pitt; the former, of Peel and Palmerston, Sydney Smith and Macaulay. Though Brodie lived through the stormy days of the French Revolution, he does not belong, for us, to that age, but to the calmer era that succeeded, when Europe was being reconstructed, and the strenuous work of the soldier was giving place to the labors of the statesman and the philosopher.

Brodie was the finished product of his time. Society was being reorganized, politics were being purified, and the English people were being prepared for that great wave of altruism and social regeneration that we now know. Science, too, was taking its rightful place in the eyes of men who were beginning to appreciate the great truths taught by Hunter in the last century; and in all these revivals, with their changed conditions and new interests, Brodie took a most prominent and forward part. Not a hero or a genius, but an accomplished man of exceptional talents and catholicity of view; he won and held long the foremost place among English surgeons.

Benjamin Collins Brodie was born in 1783, and died in 1862, and therefore belongs entirely to this century, so far as his work in the world is concerned. Like many distinguished Englishmen, he was the son of a country clergyman. In his charming autobiography Sir Benjamin tells of his ancestry and boyhood; and the striking facts are these: that his father, a man of Scotch lineage, was a Whig in politics and a protégé of Henry Fox, the first Lord Holland, by whom he was presented with the living of Winterslow, in Wiltshire. There he lived always, and there his children were born and educated. He was the father of many sons and daughters, whom he himself taught; and being a man of broad culture for the time in which he lived, he taught them well and thoroughly. Latin, Greek, English, French, Italian were their studies; and upon such a foundation of the best literature his distinguished son builded. This was a studious, methodical, retiring boy, given to solitary rambles, and little addicted to the sports of the day, for which, indeed, his opportunities were small. "Thorough" was his motto, his opinions were his own.

He had eager physical vigor too, though he was small of stature and delicate of frame; and his patriotism flamed out in season. In 1798, when Napoleon threatened invasion, young Benjamin, with his two elder brothers, raised a company of one hundred and forty volunteers. He was commissioned ensign by the king. It was a fine, well-drilled and creditable body of recruits.

Such a boyhood was in the great surgeon's back ground; but beyond this he was fortunate in family connections, professional and others, which counted to him for good. His grandfather was the grandfather also of that Thomas, Lord Denman who was the advocate of the unhappy Queen Caroline, and Chief Justice of the King's Bench, later. His paternal grandmother was a daughter of a well-known physician, Dr. Samuel Shaw. One daughter of this lady married Dr. Denman, the Chief Justice's father. Dr. Baillie and Sir Richard Croft had married his first cousins. With such a connection, it is not surprising that young Brodie came to follow some branch of the healing art. He had no "call" for it, but as he wanted a professional career, and his brother Peter had preceded him to London and was studying for the bar, he turned to surgery as his vocation,—not medicine, for he held no university degree. This was in the year 1801.

Brodie was sent to London to study surgery. The choice was made by his father, not by himself. His studies were entered upon faithfully, but without enthusiasm. A long time he felt disinclined for such work. He disliked his fellow students; and this is a notable fact of his early professional days, that he disbelieved in "calls." In his autobiography he says some interesting things in that connection. He thought, always, that he should have done equally well in the church, at the bar, or in the civil service. To him it was all a question of thoroughness; of endeavor.

In the early days of medical study those things which offend all sensitive men were especially repugnant to him; and, above all things, he disliked his associates. Indeed, the average medical student of a hundred years ago seems to have been a sorry fellow. Those youths mostly were drawn from the lower middle classes; they had little education or breeding, and were a rough, hard-drinking, boisterous, uncouth crowd, not at all pleasing as comrades to the fastidious young Brodie, the highly cultivated clergyman's son, fresh from the kindly home circle of Winterslow parsonage. But there were compensations for this in other associates—social, rather than professional. Two young surgical friends he had indeed—Crawford and Lawrence—of whom he thought highly, and they lived to justify his regard; and in the world at large men interested him, and the friends he made among them came to mean much to him. This association of his professional life with the interests of the community was typical of Brodie throughout his career; indeed, the things the man did are much less important to us than what the man was. Such men, living in a community, set their stamp upon their profession.

Brodie's professional training followed the general lines familiar to all well-educated surgeons of his time. The first two years were given to anatomy, mostly; to chemistry, and to some little pharmacology picked up in a chemist's shop. Abernethy's lectures on anatomy were attended, and the school of a Mr. Wilson, who taught in Great Windmill Street. From the out-

¹ Read before the Warren Club, March 28, 1899.

set he was diligent and successful, we must believe — though he tells his own story very modestly — for he won the confidence and regard of his seniors early, and was made their associate and treated almost as an equal when little more than a youth. That period of his life is interesting, and to be dwelt upon if there were time. He did not come in contact directly with the great teachers of the day — John Hunter was recently dead, Cline and Astley Cooper were at Guy's Hospital; but in his second year of study he became a pupil of Everard Home, whose sister John Hunter had married, and so he came to inherit the tradition and the purpose of the Hunterian school.

Mr. Home, afterwards Sir Everard Home, was surgeon to St. George's, and so it came about that to this famous hospital Brodie became attached early. There he served his apprenticeship, and there he worked as teacher and surgeon through the most active years of his long professional life. There he was two years as a pupil and six months as house surgeon, when he resigned to teach anatomy in Mr. Wilson's school.

So those four years constituted his work as a student pure and simple, and as a student he merits no special mention. He became interested, he was always industrious, he early taught and taught well. Anatomy and physiology engrossed him. There are no stories of extraordinary genius for surgery, nor of neglected opportunities and riotous living. He was an efficient, painstaking young fellow, *persona grata* to his superiors.

Brodie's professional life, after the student days, began in 1805, when he was twenty-one years old, and even then, for four years, or until he was twenty-five, he was occupied in hospital work, teaching, and assisting up to the year 1809. During more than half of this time he worked assiduously in the dissecting room and in teaching anatomy; what outside surgery he did was in the capacity of assistant to Sir Everard Home, — that work consisted in operating, and in investigations in human and comparative anatomy and physiology — pursuits which were then and for long afterward grouped together. Such studies were fascinating to the young surgeon, and it so came about that he became known to the professional public first as a physiologist rather than as an anatomist.

Then in 1808, at the age of twenty-four, he was appointed assistant surgeon to St. George's. This meant more than appears, for, owing to the frequent absences of Home, who left his patients to Brodie entirely, and to the army service of Gunning, the junior surgeon, a great amount of responsibility was thrown upon Brodie, and, for all practical purposes, he was acting as full surgeon to the hospital from the year 1808 onward until his retirement from all hospital work in 1840.

During those early years of preparation Brodie's father had died, leaving his large family in somewhat straitened circumstances. Mrs. Brodie, the widow, could live in comfort on her income, but could afford little aid to her sons in their struggles. However, they were all young unmarried men, with some start made, and so their careers were not at all interrupted. Indeed Benjamin was by that time supporting himself, practically — what with his lectures and his association with Home. He lived, indeed, in a small way at a lodging house in Sackville Street, and, as we know, it was not until 1809, in his twenty-sixth year, that he took a house of his own, in the same neighborhood, put

up a doorplate, and began the practice of surgery in earnest.

Brodie practised medicine from 1809 until 1862, when he died — a period of fifty-three years. He was a successful man; he came to be the most notable surgeon of his generation; he was everywhere esteemed and honored; he won the highest prizes; he made some important contributions to science and to medical literature; he met with no reverses, and yet as a story his life lacks plot. It is simple, straightforward, uneventful, and for us points a moral only as it shows what one form of success means, and what sort of a man was this one — reputed the most notable surgeon, scientist and scholar combined that the first half of our century produced.

Let us quickly glance over the tale as it is told by Mr. Timothy Holmes,² and then return to look at Brodie as he was — at his personality, interesting and important; at his habits, his tastes, his methods, his friends; at that thing which we moderns are calling his *environment*.

In his first year of practice Brodie worked hard for small fees, took a few pupils and lectured on anatomy; from all of these sources his income was about £250 — a very good first year even for our more expensive days. In his seventh year, at the time of his marriage, his income was £1,530; in his fourteenth year of practice, when he was forty years old, it was £6,500, and in his twenty-fifth year of practice, 1834, when he was fifty-one years old, and at the high-water mark of income, it is stated to have reached £11,000, or something less than \$55,000. This is interesting to a student of statistics. Astley Cooper made twice as much twenty years earlier, and some modern surgeons make twice as much. But Cooper was *facile princeps* among surgeons in 1815, and to-day operation fees are incomparably higher than they were in 1834, when a surgeon's income was made up from innumerable small fees and when operations were infrequent.

In 1809, then, Benjamin Brodie started out with a modest establishment at No. 22 Sackville Street, and sought the patronage of the public. If success is to be measured by pounds and shillings, Brodie was successful, as we have seen, but from the start he did much more than make money. His autobiography, which is the principal source of our knowledge of his early life, tells modestly of his physiological studies, which were inspired by the recent works of Bichat. This is what he did in the first two years: He wrote a paper on the "Dissection of a Fetus which had no Heart," and this made him a Fellow of the Royal Society in 1810. In the same year he delivered the Croonian Lecture "On the Influence of the Brain on the Action of the Heart and the Generation of Animal Heat"; he also communicated a paper on "The Effects Produced by Certain Vegetable Poisons." These papers won for him the Copley Medal. Of the award, the tale is told that one of the councillors said the medal had never before been given to so young a man; to which Wollaston answered that the author's youth was an additional reason why he should have it; at any rate, there was no further opposition.

About this time Brodie began the long-continued and serious work on "Diseases of the Joints," for

² "Sir Benjamin Collins Brodie," by Timothy Holmes, M.A., F.R.C.S., in "Masters of Medicine" Series; Longmans, Green & Co., 1898.

which he is best known in surgical annals. Briefly he himself tells the story of how, as house surgeon, he had become interested in a case of what was called "spontaneous dislocation of the hip," due to disease of that joint, and how, in this way first, he was led to study that much-neglected condition. Be it remembered that at this same time Astley Cooper was engaged on his great work on the joints, but he took up the traumatic rather than the pathological aspect of joint lesions. It is needless here to go into the details of Brodie's work. Suffice it to say that, after a long course of dissections and clinical experiments, he came to some definite understanding of the nature of chronic joint disease, especially the differentiation between true morbid processes and what are called "hysterical joints," that he saw the proper indications for treatment by rest and treatment by movements, and so doubtless his conclusions are justified, when he says, in his autobiography, "I have reason to believe that my labors have not been in vain, and that a great number of limbs are now preserved which would in former times have been amputated as a matter of course."

It is not possible here to elaborate this subject, but this work of Brodie's was indeed exhaustive and important. His first papers were published in the *Medico-Chirurgical Transactions*,—1813 and 1814—and were the beginning of his principal contribution to practical surgery, his great treatise on "Diseases of the Joints."

At this period of his life Brodie gave up teaching anatomy. This came about through the withdrawal of his superior and employer, Mr. Wilson, from such work, and not from his being engrossed himself in other matters. He was still a young man, but he never returned systematically to this field of teaching, though his labors with Home and his classes in surgery kept him in fresh touch with the subject. He seems not to have regretted this change, for soon his practice and his physiological experiments, together with surgical investigations and writings, engrossed him.

Two other events occurred, important to him in these early years of practice. In 1814 he broke down from overwork and was forced to take a long vacation. In 1816 he married a wife. He was then thirty-two years old and was earning £1,530 a year. Brodie was always a prosperous man, and his only grave anxieties, which came at the beginning of his married life, were insignificant enough. He dwells upon them as the only serious anxieties he ever knew, yet they amounted to this only: that he feared lest his bride might not have all the luxuries to which she had been accustomed, he being a poor man.

His poverty did not last long. From the year after his marriage his practice and his income increased rapidly. Cooper began to retire gradually after the year 1815, and, as Brodie himself writes, "Some one else was wanted."

The years of early struggle and establishment are the eventful years in most lives. When a man is rich and prosperous, when he drives about in his brougham behind two horses, and is sought after by the great ones of the earth, his biographer finds little to record. So it is with Brodie. He himself recognizes the fact tacitly, for after this his autobiography loses force and movement. He tells anecdotes of men and manners, and philosophizes pleasantly, but

his plot fades away into such talk. For us it remains only to collect a few dates, and then to look back at the man himself and see of what sort he was.

Children were born to him, among others a young Benjamin, whose son is the present baronet.

In 1821 he was first consulted by the king, George IV, in association with Home, Cooper and others. The king had a wen of the scalp. Cooper removed it and was made a baronet soon after.

In 1822 Brodie was made full surgeon to St. George's Hospital, on the resignation of Griffiths.

In 1830 he attended the king in his final illness.

In 1832 he was made sergeant-surgeon to William IV, and was continued in that office under the present queen.

In 1834, at the age of fifty-one, he was made a baronet, and became an examiner of the College of Surgeons.

In 1839 he was elected president of the Medico-Chirurgical Society.

In 1840 he resigned his surgeoncy to St. George's.

In 1849 he was president of the Western Medical and Surgical Society of London, which ceased to exist in 1871.

In 1858 he was the first president of the General Medical Council.

The next year he received the distinguished honor of being elected president of the Royal Society, an office never before held by a surgeon. This place he resigned in 1861. The year before this his eyes began to fail him and for the last year of his life he was practically blind.

He died on October 21, 1862, of malignant disease, originating in the shoulder—probably sarcoma.

Brodie is essentially worth knowing as a type of the best in his period in the evolution of medicine. He came after the great pioneer Hunter, whose teaching he followed. He preceded the age of antiseptics and the wonderful expansion of surgery that accompanied their discovery and application. So, placed between Hunter and Lister, he cultivated the wisdom of the former and helped prepare the field for the latter. To him the philosophy of medicine appealed more than it did to the rugged Cooper, and though he saw no more clearly than Cooper he saw more broadly. They both knew that truth is at the bottom of all wisdom. Cooper sought truth because he saw through it the solution of the problem in hand. Brodie, with his cultivated mind and knowledge of men past and present, felt in his soul that "Truth is mighty and will prevail." That fact the lawyers learned long since. On that great conception their courts of justice are founded. It is that which has given the law and its exponents the highest respect of men through all history. To prosecute criminals, to defend property, to draw wills, and to explain the statutes are no more honorable or laudable pursuits, intrinsically, than to save life, to fight contagion, or to study disease. But save for a few great souls, isolated in the centuries, truth was not the object sought by physicians. The cynic may say that for ages medicine was in the hands of priests:—that is a large subject.

Certain it is that with the dawn of science, since men have sought truth through anatomy, physiology, chemistry and allied studies, medicine has been rising, gradually, to a position of proper dignity, and to few men more than to Brodie do we English speaking folk owe the debt of gratitude for demonstrating this fact.

It is a fact which was long seen but dimly by physicians themselves. It is not altogether known yet save to the elect, but it has leavened the mass, and is percolating slowly through the crust of ignorance, of charlatanry, of self-deception, which so long have masked the real purpose of our art. It was this feeling for the truth — a feeling so familiar now with us as to be almost axiomatic, I presume — that inspired all of Brodie's work.

I think it was fortunate for him and for us that he did not live in the days of specialism. In his prime men of vigor found time to study science in the laboratory and at the bedside. The great anatomist and physiologist was the great surgeon also. He recognized, as do we, how much easier and pleasanter it is to study science than to treat disease, and he noted that the laboratory student prefers to keep out of the arena and plumes himself on his virtue. Indeed, he foresaw the time we live in, of which Holmes makes this note: "That we are here to alleviate human suffering is less recognized now than then."

Brodie did more, even, than seek the truth; he sought it with thoroughness, and so he learned early to grasp it. In the very beginning of his studies he had to overcome a repugnance for his subject, and through that very struggle he came the sooner on the meaning of it all — of the interdependence of theory and practice. He spent six years in preliminary study; but those years did not unfit him for attendance on disease when his time came, and, to crown all, he possessed in a rare degree that *intuition* necessary successfully to treat the sick.

A man's writings are not a key to his character, necessarily, but we must believe that they are so in Brodie's case. He wrote much, continuously, copiously and on divers subjects. A list of what he wrote would fill several of these pages. Of his work on the joints I have spoken; that was his *magnum opus* perhaps. He wrote also on genito-urinary disease — and important writing it was. Lithotrity for calculus was what he taught. Bigelow's operation of litholapaxy was not then perfected. No one more than Brodie — no one, that is, of the greatly successful surgeons — recognized the dangers of sepsis in cutting operations; and he was never an advocate of the knife except as a last resort.

And there were his numerous fugitive articles, essays and published addresses. He made a great many scientific addresses, which are to be found in his collected works.³ There are many introductory discourses to his students, and addresses as president of the Royal Society, and such essays as "On the Effects of Strangulation," "On the Mode of Death from Drowning," "On the Mode in which Death is Produced by a Lightning Stroke," the Hunterian Oration of 1837, essays on "Homeopathy," on "Quacks and Quackery," on the "Use and Abuse of Tobacco," "On the Establishment of Special Hospitals," etc., etc. Some few of these numerous publications are commonplace, but most are valuable and are interesting to us to-day.

Brodie's writings reveal him, too, as the many-sided man he was — physiologist, surgeon, philosopher. That publication of which his biographer speaks most — and indeed the work of which he himself thought much — is

³ Dr. Johnson said of medical practice that it is only "Melancholy attendance on misery, mean submission to peevishness, and continual interruption of rest and pleasure." — *Rambler*, No. 19.

⁴ "The Works of Sir Benjamin Collins Brodie, Bart., D.C.L.," etc., with an autobiography, collected and arranged by Charles Hawkins, F.R.C.S., in three volumes. London, 1865.

his series of essays entitled "Psychological Inquiries," — the first part "intended to illustrate the Mutual Relations of the Physical Organization and the Mental Faculties," the second part "to illustrate some Points in the Physical and Moral History of Man."

As the titles suggest, Brodie has embodied all his best thoughts on life in these essays. A *critique* or a bare synopsis would be impossible here. The essays are indeed charming and abundantly worth reading. Constructed on the lines of Bishop Berkeley's "Alciphron," they combine the manner and thought of many other writers — of Cicero in *De Senectute*, of Dr. Brown and our own Dr. Holmes — yet they are essentially Brodie's own in construction, in style and in method of reasoning. The optimism of the man shines forth continually, as well as the kindliness of the physician and the wisdom of the philosopher. He believes firmly in man's capacity for indefinite development; he asserts that the longer he lives the more thoroughly is he convinced by experience that the good in this world predominates vastly over the evil. His axiom is that "The existence of one's own mind is the only thing of which one has any positive and actual knowledge." And through it all, and differing indeed from modern thinkers, he treats the question of the existence and creative energy of God as settled.

That these disquisitions should have been written by Brodie is an interesting and curious commentary on the man. One looks for an explanation of it, and finds it at once in his often-repeated assertion that a liberal training in letters is the best preparation for the medical education.

Brodie had no Boswell, as had Astley Cooper in his Bransby, but he was better worthy of one. His appearance, manner, private life, and conversation must have been worth recording, if one may judge by a few poor glimpses. To his junior followers he was a demi-god. Charles Hawkins, his young associate, edited his works, but was "unworthy to write the life of so great a man," he said. Even Timothy Holmes, writing thirty-six years after Brodie's death, speaks of him with reverence, as the one great man, to be reckoned with Harvey and Hunter. Now Hawkins and Holmes knew Brodie; they were educated in the Brodie tradition, as we in Boston were educated in the tradition of Bigelow and the "Elder Warren." To Hawkins and Holmes Brodie was a very real living force; but, alas, to us now, the volume of that force is easy of measurement, and already his deeds have ceased to live.

The physical personality of Brodie meant less than is often the case with great men. He was small of stature, lithe, active, keen, winning, with a something that secured and held warm friends, but without that rare quality we call magnetism — to hold and sway a crowd.

In his younger days he fell in with many interesting and distinguished men, inside and outside of his profession, and such friends he cultivated always. At first there were the associates of his barrister brother, Peter, whose Academical Society he joined; in it were Merivale, Wray, Stoddard, the future Lord Campbell, and other such. He even wrote some for Baldwin's *Literary Journal*.

Then in his hospital days he was introduced to Sir Joseph Banks, president of the Royal Society, and in 1810, at the age of twenty-seven, he became a member of that distinguished body. So he knew well and men-

tions Herschel, Humphrey Davy, Wollaston, Young, Hatchett, Wilkins, Marsden, Renuell, Henry Cavendish, Blagden, Abernethy, Carlisle, and many others, who are far removed from us.

There were, too, his many social duties, which Brodie kept up, though he says they were in no way allowed to interfere with his professional work. He tells of being very much engaged "in dinner society," as his acquaintance was pretty large, but that, being of temperate habits, he always returned home at an early hour.

Brodie had a traditional interest in and loyalty to the Fox Family; so that it is not surprising to find him an intimate visitor at Holland House and a member of that delightful circle made famous by Macaulay, and so well known to us through the writings of Macaulay's biographer, Sir G. O. Trevelyan. He speaks warmly of Lord and Lady Holland, and we cannot but think that the connection was of value to him in his early days of practice.

If one had time it would be interesting to quote at length the pleasant things he tells of all these folk. It was a very live and earnest gathering of men and women, and one does not hear from such as Samuel Rogers, Sydney Smith, Allen and Macaulay that sort of smug criticism by a sham Bohemia which is not unknown to some gatherings of the present day.

Indeed a careful reading in these pages of Brodie's autobiography, with appropriate excursions into neighboring fields, as the context suggests, would give us a delightful study of the methods and manners of English life in the first half of this century. I know of no scientific man whose career seems to be in such close sympathy with the life of his time. In reading of Harvey or Hunter or Cooper one feels that they all might have belonged equally well to the fourteenth as to the seventeenth, eighteenth and nineteenth centuries. They dwelt apart, in a little world of their own, and could not have been companions altogether agreeable to live with. With Brodie it is all very different: one feels on good terms with him at once; his atmosphere is not in the least rarefied; he was a person of modest and kindly spirit, ignorant of jealousies and in charity with all men.

And after all is said, what was it that made Brodie such a power in his generation? I think it was that he did well all those things that he found to do. He was a successful teacher; he prepared his lectures carefully, he was always on hand, he went straight to the point, he won and held the attention of his pupils. They went to him for knowledge and they were never disappointed. Nothing connected with his calling was small and insignificant to him. Out of the veriest trifles he gathered something of human interest and thus held it up to his hearers. He was a convincing writer. Though a firm believer and practitioner of original investigation and observation, and so not a man of text-book knowledge, he was always a great reader of good literature and was thoroughly versed in the best work of his profession. He attended scrupulously to the work in hand and undertook nothing that he could not perform. At the comparatively early age of fifty-seven he retired from the hospital; not because he was infirm or beyond work but because an engrossing practice and the numberless calls upon his time led him to feel that the interests of the hospital would thus best be served. In middle age and with advancing years he was constantly re-

ceiving high honors from home and foreign scientific bodies, and was in demand especially as a presiding officer. In this capacity he served diverse associations, most conspicuous of which were the Royal Society and the Royal Medical and Chirurgical Society. With us the functions of a presiding officer seem to have become insignificant enough, but with Sir Benjamin Brodie the position was no sinecure; he believed in debates, and encouraged discussion—that one thing which, rightly carried on, is the life of such meetings. And those meetings were largely attended. He cut short prologues, he suggested new lines of thought, and was great indeed when, the talk failing, his own chance came to sum up and elucidate the whole matter. There was always discussion when he presided. He would talk if no one else would begin, and the extent of his information, both general and minute, on nearly all subjects was a constant wonder and delight. He rarely missed his meetings and he was familiar with the subject in hand always.

It is in such pursuits that we must fancy Brodie to ourselves; as a leader and teacher of his fellows, as the great type and exponent of our art to our fellow-men. Forty years ago the *Great Duke* meant Wellington to an Englishman; the *Great Surgeon* meant Brodie. He grew to be an exemplar. In all things he saw something of good. From all men he extracted the best. In learning he found the joy of living, and he met death with a perfect courage.

To such a man: patient, industrious, brilliant, wise; sound scholar and lucid teacher, his friends dedicated the Brodie Medal and inscribed these lines of Lucretius:

"E tenebris tantis tam clarum extollere lumen,
Qui primus potuisti, illustrans commoda vitæ."⁵

TRAUMATIC CEREBRAL EDEMA: ITS PATHOLOGY AND SURGICAL TREATMENT—A CRITICAL STUDY.¹

BY J. W. COURTNEY, M.D., BOSTON,

Assistant in Nervous Diseases, Boston City Hospital; Visiting Physician to the Home for Incurables, Dorchester.

(Continued from No. 15, p. 348.)

On comparing these clinical findings with the description already set forth of the pathogenesis of the conditions found in brain contusion, they will be seen to harmonize in every detail, and it will be immediately evident that the presence of the hyperemic vessels (paralytic dilatation) without the edema is merely an index of the stage in which the process was when observed. Just what Dr. Bullard means by "increased intradural pressure" is not so clear. So far as is evident from his preliminary remarks, he considers the term synonymous with "compression." If this conclusion is correct, then, from our knowledge that compression is synonymous with cerebral anemia, there is nothing debatable in this observation. An analysis of the illustrative cases cited by Bullard will, we think, show that contusion was in every instance the element which produced the bulging brain with its engorged vessels and the edema observed by him.

¹ An essay to which was awarded the William H. Thorndike Prize (Harvard) for 1898.

⁵ De Rer. Nat., III, 1, 2.