think the legislators of this country will some day (and that not far distant) be induced to see that the system which at present obtains is unworthy of a great and growing country.

In conclusion, allow me to express the hope that the arrangements made by the Executive Committee for the entertainment of our guests may meet with appreciation and approval, and that the memories of the brief sojourn here may be all that is bright and happy. The loyalty and unanimity with which the profession throughout the Dominion has co-operated with us in Montreal to make this meeting of the British Medical Association a success from every point of view, deserve and receive our heartiest thanks. We are also greatly indebted for the kind and ready assistance of the Dominion Government, the Quebec Government, and the Civic Government of Montreal. Our hands have been strengthened, and the cause we have so much at heart has been furthered, by the active goodwill of the country's official representatives.

One word more. It is a good thing to be here to-day in the midst of this great gathering so full of power and vigour. The fruits of such a gathering should be tangible, enduring—not ephemeral, nor for to-day, but for all time. To our kinsmen from beyond the great seas let me express the earnest hope that in the future our kinship will be a more real and living thing than in the past. We are members of one great family, members one of another, in a peculiar and very real sense. Let that once be recognised, and the statesman's task will be an easy one. In more than words has Canada shown herself worthy of her high heritage, worthy of a part in the Empire, worthy to share in its trials and triumphs. We, who know her history, can say with well-founded confidence:

So in the long hereafter this Canada shall be,
The worthy heir of British power and British liberty.
Spreading the blessings of her sway to her remotest bounds,
While with the fame of her fair name a continent resounds.
True to her high traditions, to Britain's ancient glory,
Of patient saint and martyr, alive in deathless story;
Strong in their liberty and truth to shed from shore to shore
A light among the nations till nations are no more.

ADDRESS IN MEDICINE

BY

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*At the Annual Meeting of the British Medical Association,
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BRITISH MEDICINE IN GREATER BRITAIN.

THE MAKING OF GREATER BRITAIN

To trace successfully the evolution of any one of the learned professions would require the hand of a master, of one who, like Darwin, could combine the capacity for patient observation with philosophic vision. In the case of medicine the difficulties are enormously increased by the extraordinary development which belongs to the history of the present century. The rate of progress has been too rapid for us to appreciate, and we stand bewildered, and, as it were, in a state of intellectual giddiness, when we attempt to obtain a broad comprehensive view of the subject. In a safer 'middle flight' it is my purpose to dwell on certain of the factors which have moulded the profession in English-speaking lands beyond the narrow seas—of British Medicine in Greater Britain. Even for this lesser task (though my affiliations are wide and my sympathies deep) I recognise the limitations of my fitness, and am not unaware that in my ignorance I shall overlook much which might have rendered less sketchy a sketch necessarily imperfect.

Evolution advances by such slow and imperceptible degrees that to those who are part of it the finger of time scarcely seems to move. Even the great epochs are seldom apparent to the participants. During the last century neither the colonists nor the mother country appreciated the thrilling interest of the long-fought duel for the possession of this continent. The acts and scenes of the drama, to them detached, isolated and independent, now glide like dissolving

views into each other, and in the vitascope of history we can see the true sequence of events. That we can meet here to-day, Britons on British soil in a French province, is one of the far-off results of that struggle. This was but a prelude to the other great event of the eighteenth century, the revolt of the colonies and the founding of a second great English-speaking nation—in the words of Bishop Berkeley's prophecy, "Time's noblest offspring."

Surely a unique spectacle that a century later descendants of the actors of these two great dramas should meet in an English city in New France. Here the American may forget Yorktown in Louisbourg, the Englishman Bunker Hill in Quebec, and the Frenchman both Louisbourg and Quebec in Chataquay; while we Canadians, English and French, in a forgiving spirit, overlooking your unseemly quarrels, are only too happy to welcome you to our country, this land on which, and for which, you have so often fought. Once, and only once, before in the history of the world could such a gathering as this have taken place. Divided though the Greeks were, a Hellenic sentiment of extraordinary strength united them in certain assemblies and festivals. No great flight of imagination is required to picture a notable representation of our profession in the fifth century B.C. meeting in such a colonial town as Agrigentum under the presidency of Empedocles. Delegates from the mother cities, brilliant predecessors of Hippocrates of the stamp of Damocedes and Herodicus, delegates from the sister colonies of Syracuse and other Sicilian towns, from neighbouring Italy, from far distant Massilia, and from still more distant Panticapaeum and Istria. And in such an assemblage there would have been men capable of discussing problems of life and mind more brilliantly than in many subsequent periods, in proportion as the pre-Hippocratic philosophers in things medical had thought more deeply than many of those who came after them.

We English are the modern Greeks, and we alone have colonised as they did, as free people. There have been other great colonial empires, Phœnician, Roman, Spanish, Dutch, and French, but in civil liberty and in intellectual freedom Magna Græcia and Greater Britain stand alone. The parallel so often drawn between them is of particular interest with reference to the similarity between the Greek settlements in Sicily and the English plantations on the Atlantic coast. Indeed, Freeman says, "I can never think of America without something suggesting Sicily, or of Sicily without something suggesting America." I wish to use the parallel only to emphasise two points, one of difference and one of resemblance. The Greek colonist took Greece with him. Hellas had no geographical bounds. "Massilia and Obia were cities of Hellas in as full a sense as Athens or Sparta." While the emigrant Britons changed their sky, not their character, in crossing the great sea, yet the home stayers had never the same feelings towards the plantations as the Greeks had towards the colonial cities of Magna Græcia. If, as has been shrewdly surmised, Professor Seeley was Herodotus reincarnate, how grieved the spirit of the "Father of History" must have been to say of Englishmen, "Nor have we even now ceased to think of ourselves as simply a race inhabiting an island off the northern coast of the continent of Europe." The assumption of gracious superiority which, unless carefully cloaked, smacks just a little of our national arrogance, is apt to jar on sensitive colonial nerves. With the expansion of the empire, and the supplanting of a national by an imperial spirit, this will become impossible. That this sentiment never prevailed in Hellas, as it did later in the Roman empire, was due largely to the fact that in literature, in science, and in art the colonial cities of Greece early overshadowed the mother cities. It may be because the settlements of Greater Britain were things of slower growth, that it took several generations and several bitter trials to teach a lesson the Greeks never had to learn.

The Greek spirit was the leaven of the old world, the workings of which no nationality could resist. Thrice it saved Western civilisation, for it had the magic power of leading captivity captive, and making even captive conquerors the missionaries of culture. What modern medicine owes to it will appear later. "The love of science, the love of art, the love of freedom, vitally correlated to each other and brought into organic union" were the essential attributes of the

Greek genius (Butcher). While we cannot claim for the Anglo-Saxon race all of these distinctions, it has in a high degree that one which in practical life is the most valuable, and which has been the most precious gift of the race to the world—the love of freedom,

Of freedom in her regal seat
Of England.

It would carry one too far afield to discuss the difference between the native Briton and his children scattered so widely up and down the earth. In Canada, South Africa, Australia, and New Zealand types of the Anglo-Saxon race are developing which will differ as much from each other and from the English as the American does to-day from the original stock; but amid these differences can everywhere be seen those race qualities which have made us what we are—"courage, national integrity, steady good sense, and energy in work." At a future meeting of the Association, perhaps in Australia, a professional Sir Charles Dilke, with a firm grasp on the subject, may deal with the medical problems of Greater Britain in a manner worthy of the address in medicine. My task, as I mentioned at the outset, is much less ambitious.

THE INFLUENCE OF GREECE ON BRITAIN.

Could some one with full knowledge patiently analyse the characteristics of British medicine he would find certain national traits, sufficiently distinct for recognition. Three centuries cannot do very much—and that period has only just passed since the revival of medicine in England—but the local conditions of isolation, which have been singularly favourable to the development of special peculiarities in the national character, have not been without effect on the medical profession. I cannot do more than touch upon a few features, not distinctive but illustrative—features which will be useful as indicating the sources of influence upon Greater Britain in the past, and which may, perhaps, be suggestive as to lines of progress in the future.

Above the fireplace in Sir Henry Acland's study are three panelled portraits of Linacre, Sydenham, and Harvey; the scroll upon them reads *Literæ, Praxis, Scientia*. To this great triumvirate, as to the fountain heads, we may trace the streams of inspiration which have made British medicine what it is to-day.

Linacre, the type of the literary physician, must ever hold a unique place in the annals of our profession. To him was due in great measure the revival of Greek thought in the sixteenth century in England, and in the last Harveian Oration Dr. Payne has pointed out his importance as a forerunner of Harvey. He made Greek methods available; through him the art of Hippocrates and the science of Galen became once more the subject of careful, first-hand study. Linacre, as Dr. Payne remarks, "was possessed from his youth till his death by the enthusiasm of learning. He was an idealist, devoted to objects which the world thought of little use." Painstaking, accurate, critical, hypercritical perhaps, he remains to-day the chief literary representative of British medicine. Neither in Britain nor in Greater Britain have we maintained the place in the world of letters created for us by Linacre's noble start. It is true that in no generation since has the profession lacked a man who might stand unabashed in the temple at Delos; but, judged by the fruits of learning, scholars of his type have been more common in France and Germany. Nor is it to our credit that so little provision is made for the encouragement of these studies. For years the reputation of Great Britain in this matter was sustained almost alone by the great Deeside scholar, the surgeon of Banchoory, Francis Adams, the interpreter of Hippocrates to English students. In this century he and Greenhill have well maintained the traditions of Linacre. Their work, and that of a few of our contemporaries, among whom Ogle must be specially mentioned, has kept us in touch with the ancients. But by the neglect of the study of the humanities, which has been far too general, the profession loses a very precious quality.

While in critical scholarship and in accurate historical studies British medicine must take a second place, the influence of Linacre, exerted though the Royal College of Physicians and the old Universities, has given to the

humanities an important part in education, so that they have moulded a larger section of the profession than in any other country. A physician may possess the science of Harvey and the art of Sydenham, and yet there may be lacking in him those finer qualities of heart and head which count for so much in life. Pasture is not everything, and that indefinable, though well understood, something which we know as breeding is not always an accompaniment of great professional skill. Medicine is seen at its best in men whose faculties have had the highest and most harmonious culture. The Lathams, the Watsons, the Pagets, the Jenners, and the Gairdners have influenced the profession less by their special work than by exemplifying those graces of life and refinements of heart which make up character. And the men of this stamp in Greater Britain have left the most enduring mark: Beaumont, Bovell, and Hodder in Toronto; Holmes, Campbell, and Howard in this city; the Warrens, the Jacksons, the Bigelows, the Bowditches and the Shattucks in Boston; Bard, Hossack, Francis, Clark, and Flint in New York; Morgan, Shippen, Redman, Rush, Coxe, the elder Wood, the elder Pepper, and the elder Mitchell in Philadelphia—Brahmins all, in the language of the greatest Brahmin among them—Oliver Wendell Holmes—these, and men like unto them, have been the leaven which has raised our profession above the dead level of a business.

The *literæ humaniores*, represented by Linacre, revived Greek methods, but the faculty at the end of the sixteenth and the beginning of the seventeenth centuries was in a slough of ignorance and self-conceit, and not to be aroused even by Moses and the prophets in the form of Hippocrates and the fathers of medicine.

In the pictures referred to Sydenham is placed between Linacre and Harvey, but science preceded practice, and Harvey's great Lumleian Lectures were delivered before Sydenham was born. Linacre has been well called by Payne Harvey's intellectual grandfather. "The discovery of the circulation of the blood was the climax of that movement which began a century and a half before with the revival of Greek medical classics and especially of Galen" (Payne). Harvey returned to Greek methods and became the founder of modern experimental physiology and the great glory of British scientific medicine. The demonstration of the circulation of the blood remains in every detail a model research. I shall not repeat the oft-told tale of Harvey's great and enduring influence, but I must refer to one feature which, until lately, has been also a special characteristic of his direct successors in Great Britain. Harvey was a practitioner and a hospital physician. There are gossiping statements by Aubrey to the effect that "he fell mightily in his practice" after the publication of the *De Motu Cordis*, and that his "therapeutic way" was not admired; but to these his practical success is the best answer. It is remarkable that a large proportion of all the physiological work of Great Britain has been done by men who have become successful hospital physicians and surgeons. I was much impressed by a conversation with Professor Ludwig in 1884. Speaking of the state of English physiology, he lamented the lapse of a favourite English pupil from science to practice; but he added, "while sorry for him, I am glad for the profession in England." He held that the clinical physicians of that country had received a very positive impress from the work of their early years in physiology and the natural sciences. I was surprised at the list of names which he cited—among them I remember Bowman, Paget, Savory, and Lister. Ludwig attributed this feature in part to the independent character of the schools in England, to the absence of the university element, so important in medical life in Germany, but, above all, to the practical character of the English mind, the better men preferring an active life in practice to a secluded laboratory career.

Thucydides it was who said of the Greeks that they possessed "the power of thinking before they acted and of acting too." The same is true in a high degree of the English race. To know first what has to be done, then to do it, comprises the whole philosophy of practical life. Sydenham (*Anglia lumen*, as he has been well called) is the model practical physician of modern times. Linacre led Harvey back to Galen, Sydenham to Hippocrates. The one took Greek science, the other not so much Greek medicine as Greek methods, par-

ticularly intellectual fearlessness, and a certain knack of looking at things. Sydenham broke with authority and went to Nature. It is an extraordinary fact that he could have been so emancipated from dogmas and theories of all sorts. He laid down the fundamental proposition, and acted upon it, that "all diseases should be described as objects of natural history." To do him justice we must remember, as Dr. John Brown says, "in the midst of what a mass of errors and prejudices, of theories actively mischievous, he was placed, at a time when the mania of hypothesis was at its height, and when the practical part of his art was overrun and stultified by vile and silly nostrums."

Sydenham led us back to Hippocrates; I would that we could be led oftener to Sydenham. How necessary to bear in mind what he says about the method of the study of medicine. "In writing, therefore, such a natural history of diseases, every merely philosophical hypothesis should be set aside, and the manifest and natural phenomena, however minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be easily over-rated as compared with the subtle inquiries and trifling notions of modern writers, nor can there be a shorter, or, indeed, any other way of coming at the morbid causes, or of discovering the curative indications, than by a certain perception of the peculiar symptoms? By these steps and helps it was that the father of physic, the great Hippocrates, came to excel, his theory being no more than an exact description or view of Nature. He found that Nature alone terminates diseases, and works a cure with a few simple medicines, and often enough with no medicine at all." Well, indeed, has a recent writer remarked, "Sydenham is unlike every previous teacher of the principles and practice of medicine in the modern world."

Sydenham—not Linacre or Harvey—is the model British physician, in whom were concentrated all these practical instincts upon which we lay such stress in the Anglo-Saxon character. The Greek faculty which we possess of thinking and acting has enabled us, in spite of many disadvantages, to take the lion's share in the great practical advances in medicine. The three greatest scientific movements of the century have come from Germany and France. Bichat, Laennec, and Louis laid the foundation of modern clinical medicine; Virchow and his pupils of scientific pathology; while Pasteur and Koch have revolutionised the study of the causes of disease; and yet the modern history of the art of medicine could almost be written in its fulness from the records of the Anglo-Saxon race. We can claim almost every practical advance of the very first rank—vaccination, anaesthesia, preventive medicine, and antiseptic surgery—the "captain jewels in the carcanet" of the profession, beside which can be placed no others of equal lustre.

THE INFLUENCE OF AUTHORITY IN MEDICINE.

One other lesson of Sydenham's life needs careful conning. The English Hippocrates, as I said, broke with authority. His motto was

Thou, Nature, art my goddess; to thy law
My services are bound.

Undue reverence for authority as such, a serene satisfaction with the *status quo*, and a fatuous objection to change, have often retarded the progress of medicine. In every generation, in every country, there had been, and ever will be, *laudatores temporis acti*, in the bad sense of that phrase, not a few of them men in high places, who have lent the weight of a complacent conservatism to bolster up an ineffectual attempt to stay the progress of new ideas. Every innovator from Harvey to Lister has been made to feel its force. The recently issued life of Thomas Wakley is a running commentary on this spirit, against the pricks of which he kicked so hard and so effectually. But there are signs of a great change. The old universities and the colleges, once the chief offenders, have been emancipated, and remain no longer, as Gibbon found them, steeped in port and prejudice. The value of authority *per se* has lessened enormously, and we of Greater Britain have perhaps suffered as the pendulum has swung to the other extreme. Practice loves authority, as announced in "the general and perpetual voice of men" (Hooker). Science must ever hold with Epicharmus that a judicious distrust and a wise scepticism are the sinews of the

understanding. And yet the very foundations of belief in almost everything relating to our art rest upon authority. The practitioner cannot always be the judge, the responsibility must often rest with the teachers and investigators, who can only learn in the lessons of history the terrible significance of the word.

In the treatment of fever the fetters of a thousand years were shattered by Sydenham—shattered only to be riveted anew. How hard was the battle in this century against the entrenched and stubborn foe. Listen to the eloquent pleadings of Stokes, pleading, as did Sydenham, against authority, and against the bleedings, the purgings, and sweatings of fifty years ago. "Though his hair be grey, and his authority high, he is but a child in knowledge and his reputation an error. On a level with a child, so far as correct appreciation of the great truths of medicine is concerned, he is very different in other respects, his powers of doing mischief are greater; he is far more dangerous. Oh! that men would stoop to learn, or at least cease to destroy." The potency of human authority among "the powers that be" was never better drawn than by the judicious Hooker in his section on this subject. "And this not only with the 'simpler sort,' but the learned and wiser we are, the more such arguments in some cases prevail with us. The reason why the simpler sort are moved with authority is the conscience of their own ignorance; whereby it cometh to pass that having learned men in admiration, they rather fear to dislike them than know wherefore they should allow and follow their judgments. Contrariwise with them that are skilful, authority is much more strong and forcible; because they only are able to discern how just cause there is why to some men's authority so much should be attributed. For which cause the name of Hippocrates (no doubt) were more effectual to persuade even such men as Galen himself than to move a silly empiric."¹

Sydenham was called "a man of many doubts," and therein lay the secret of his great strength.

MEDICINE IN AMERICA: TO 1820.

Turning now to the main question of the development of this British medicine in Greater Britain, I must at once acknowledge the impossibility of doing justice to it. I can only indicate a few points of importance, and I must confine my remarks chiefly to the American part of Greater Britain.

We may recognise three periods, corresponding to three distinct waves of influence: the first from the early migrations to about 1820; the second from about 1820 to 1860; and the third from about 1860 to the present time.

The Colonial settlements were contemporaneous with the revival of medicine in England. Fellow-students of Harvey at Cambridge might have sailed in the *Mayflower* and the *Arbella*. The more carefully planned expeditions usually enlisted the services of a well-trained physician, and the early records, particularly of the New England colonies, contain many interesting references to these college-bred men. Giles Firman, who settled in Boston in 1632, a Cambridge man, seems to have been the first to give instruction in medicine in the new world. The parsons of that day had often a smattering of physic, and illustrated what Cotton Mather called an "angelical conjunction." He says: "Ever since the days of Luke the Evangelist, skill in physic has been frequently professed and practised by persons whose more declared business was the study of divinity." Firman himself finding physic "but a meane helpe," took orders. These English physicians in the New England colonies were scholarly, able men. Roger Chillingworth, in Hawthorne's *Scarlet Letter*, has depicted them in a sketch of his own life: "Made up of earnest, studious, thoughtful, quiet years, bestowed faithfully for the increase of knowledge; faithfully, too, for the advancement of human welfare; men thoughtful for others, caring little for themselves, kind, just, true, and of constant if not warm affections"—a singularly truthful picture of the old colonial physician.

Until the establishment of medical schools—University of Pennsylvania, 1763; King's College (afterwards Columbia) 1767; and Harvard, 1782—the supply of physicians for the colonies came from Great Britain, supplemented by men trained under the old apprentice system, and of colonists who went to Edinburgh, Leyden, and London for their medical

education. This latter group had a most powerful effect in moulding professional life in the pre-revolutionary period. They were men who had enjoyed not alone the instruction, but often the intimate friendship of the great English and European physicians. Morgan, Rush, Shippen, Bard, Wistar, Hossack, and others had received an education comprising all that was best in the period, and had acquired the added culture which can only come from travel and wide acquaintance with the world. Morgan, the founder of the medical school of the University of Pennsylvania, was away seven years, and before returning had taken his seat as a corresponding member of the French Academy of Surgery, besides having been elected a Fellow of the Royal Society. The War of Independence interrupted temporarily the stream of students, but not the friendship which existed between Cullen and Fothergill and their old pupils in America. The correspondence of these two warm friends of the colonies testifies to the strong professional intimacy which existed at the time between the leaders of the profession in the old and new worlds. But neither Boerhaave, Cullen, nor Fothergill stamped colonial medicine as did the great Scotchman, John Hunter. Long weary centuries separated Harvey from Galen; not a century elapsed from the death of the great physiologist to the advent of the man in whose phenomenal personality may be seen all the distinctive traits of modern medicine, and the range of whose mighty intellect has had few, if any, equals since Aristotle. Hunter's influence on the profession of this continent, so deep and enduring, was exerted in three ways. In the first place, his career as an army surgeon, and his writings on subjects of special interest to military men, carried his work and ways into innumerable campaigns in the long French wars, and the War of Independence. Hunter's works were reprinted in America as early as 1791 and 1793. In the second place, Hunter had a number of most distinguished students from the colonies, among whom were two who became teachers of wide reputation. William Shippen, the first Professor of Anatomy in the University of Pennsylvania, lived with Hunter on terms of the greatest intimacy. He brought back his methods of teaching, and some measure of his spirit. With the exception of Hewson and Home, Hunter had no more distinguished pupil than Philip Syng Physick, who was his House-Surgeon at St. George's Hospital, and his devoted friend. For more than a generation Physick had no surgical compeer in America, and enjoyed a reputation equalled by no one save Rush. He taught Hunterian methods in the largest medical school in the country, and the work of his nephew (Dorsey) on surgery is very largely Hunter modified by Physick. But in a third and much more potent way the great master influenced the profession of this continent. Hunter was a naturalist to whom pathological processes were only a small part of a stupendous whole, governed by law, but which could never be understood until the facts had been accumulated, tabulated, and systematised. By his example, by his prodigious industry, and by his suggestive experiments he led men again into the old paths of Aristotle, Galen, and Harvey. He made all thinking physicians naturalists; he lent a dignity to the study of organic life, and re-established a close union between medicine and the natural sciences. Both in Britain and Greater Britain he laid the foundation of the great collections and museums, particularly those connected with the medical schools. The Wistar-Horner and the Warren Museums originated with men who had been greatly influenced by Hunter. He was, moreover, the intellectual father of that interesting group of men on this side of the Atlantic, who, while practising as physicians, devoted much time and labour to the study of natural history. In the latter part of the last century, and during the first thirty years of this, the successful practitioner was very often a naturalist.

I wish that time permitted me to do justice to the long list of men who have been devoted naturalists, and who have made contributions of great value. Benjamin Smith Barton, David Hossack, Jacob Bigelow, Richard Harland, John D. Godman, Samuel George Morton, John Collins Warren, Samuel L. Mitchell, J. Aiken Meigs, and many others have left the records of their industry in their valuable works, and in the *Transactions* of the various societies and academies. In Canada many of our best naturalists have been physicians,

and collections in this city testify to the industry of Holmes and McCullough. I was regretting the humanities a few minutes ago, and now I have to mourn the almost complete severance of medicine from the old natural history. To a man the most delightful recollections of whose studentship are the Saturdays spent with a preceptor who had a Hunterian appetite for specimens—anything from a trilobite to an acarus—to such a one across the present brilliant outlook comes the shadow of the thought that the conditions of progress will make impossible again such careers as those of William Kitchen Parker and William Carmichael McIntosh.

Until about 1820 the English profession of this continent knew little else than British medicine. After this date in the United States the ties of professional union with the old country became relaxed, owing in great part to the increase in the number of home schools, and in part to the development of an American literature. To 1820, 114 native medical books of all kinds had been issued from the press, and 131 reprints and translations, the former English, the latter almost exclusively French (Billings). Turning for a few minutes to the conditions of the profession in Canada during this period, I regret that I cannot speak of the many interesting questions relating to the French colonies. I may mention, however, that with the earliest settlers physicians had come, and among the Jesuits, in their devoted missions, there are records of *donnés* (laymen attached to the service) who were members of the profession. One of these, René Goupil, suffered martyrdom at the hands of the Iroquois.²

Between the fall of Quebec in 1759 and 1820, the English population had been increased by the settlement of Upper Canada, chiefly by United Empire Loyalists from the United States, and after the war of 1812 by settlers from the old country. The physicians in the sparsely-settled districts were either young men who sought their fortunes in the new colony, or were army surgeons who had remained after the revolutionary war or the war of 1812. The military element gave for some years a very distinctive stamp to the profession. These surgeons were men of energy and ability, who had seen much service and were accustomed to order, discipline, and regulations. Sabine, in his *History of the Loyalists*, refers to the Tory proclivities of the doctors, and says that they were not so much disturbed as the lawyers and clergymen. Still a good many of them left their homes "for conscience sake;" and Canniff, in his *History of the Profession in Upper Canada*, gives a list of those known to have been among the United Empire Loyalists. The character of the men who controlled the profession of the new colony is well shown by the proceedings of the Medical Board, which was organised in 1819. Drs. Macaulay and Widmer, both army surgeons, were the chief members. The latter, who has well been termed the father of the profession in Upper Canada, a man of the very highest character, did more than anyone else to promote the progress of the profession, and throughout his long career his efforts were always directed in the proper channels. In looking through Canniff's most valuable work one is much impressed by the sterling worth and mettle of the old army surgeons, who in these early days formed the larger part of the profession. The minutes of the Medical Board indicate with what military discipline the candidates were examined, and the percentage of rejections has probably never been higher in the history of the province than it was in the first twenty years of the existence of the Board.

One picture on the canvas of those early days lingers in the memory, illustrating many of the most attractive features of a race which has done much to make this country what it is to-day. Widmer was the type of the dignified old army surgeon, scrupulously punctilious, and in every detail regardful of the proprieties of life. "Tiger" Dunlop may be taken as the very incarnation of that restless, roving spirit which has driven the Scotch broadcast upon the world. After fighting with the Connaught Rangers in the war of 1812, campaigning in India, clearing the Sangur of tigers—hence his sobriquet "Tiger"—lecturing on Medical Jurisprudence in Edinburgh, writing for *Blackwood*, editing the *British Press* and the *Telescope*, introducing *Beck's Medical Jurisprudence* to English readers, and figuring as director and promoter of various companies, this extraordinary character appears in the young colony as "Warden of the Black Forest" in the employ of the Canada Company. His life in the backwoods at Gair-

braid, his *Noctes Ambrosianæ Canadenses*, his famous "Twelve Apostles," as he called his mahogany liquor stand (each bottle a full quart), his active political life, his remarkable household, his many eccentricities—are they not all portrayed to the life in the recently issued *In the Days of the Canada Company?*

AMERICA: 1820—1860.

Turning now to the second period, we may remark in passing that the nineteenth century did not open very auspiciously for British medicine. Hunter had left no successor, and, powerful as had been his influence, it was too weak to stem the tide of abstract speculation with which Cullen, Brown, and others flooded the profession. No more sterile period exists than the early decades of this century. Willan, a great naturalist in skin diseases, with a few others, save it from utter oblivion. The methods of Hippocrates, of Sydenham, and of Hunter had not yet been made available in everyday work. The awakening came in France, and such an awakening! It can be compared with nothing but the renaissance in the sixteenth and seventeenth centuries, which gave us Vesalius and Harvey. "Citizen" Bichat and Broussais led the way, but Laennec really created clinical medicine as we know it to-day. The discovery of auscultation was only an accident—of vast moment it is true—in a systematic study of the correlation of symptoms with anatomical changes. Louis, Andral, and Chomel extended the reputation of the French School, which was maintained to the full until the sixth decade, when the brilliant Trousseau ended a long line of Paris teachers, whose audience had been world-wide.

The revival of medicine in Great Britain was directly due to the French. Bright and Addison, Graves and Stokes, Forbes and Marshall Hall, Latham and Bennett were profoundly affected by the new movement. In the United States, Anglican influence did not wane until after 1820. Translations of the works of Bichat appeared as early as 1802, and there were reprints in subsequent years, but it was not until 1823 that the first translation of Laennec—a reprint of Forbes's edition—was issued. Broussais's works became very popular in translations after 1830, and in the journals from this time on the change of allegiance became very evident. But men rather than books diverted the trend of professional thought.

After 1825 American students no longer went to Edinburgh and London, but to Paris, and one can say that between 1830 and 1860 every teacher and writer of note passed under the Gallic yoke. The translations of Louis's works, and the extraordinary success of his American pupils—a band of the ablest young men the country has ever seen—added force to the movement. And yet this was a period in which American medical literature was made up largely of pirated English books, and the *Systems*, *Encyclopædias*, and *Libraries*, chiefly reprints, testify to the zeal of the publishers. Stokes, Graves, Watson, Todd, Bennett, and Williams furnished Anglican pap to the sucklings, as well as strong meat to the full grown. In spite of the powerful French influence the textbooks of the schools were almost exclusively English.

In Canada the period from 1820 to 1860 saw the establishment of the English universities and medical schools. In Montreal the agencies at work were wholly Scotch. The McGill Medical School was organised by Scotchmen, and from its inception has followed closely Edinburgh methods. The Paris influence, less personal, was exerted chiefly through English and Scotch channels. The Upper Canada schools were organised by men with English affiliations and the traditions of Guy's, St. Bartholomew's, St. Thomas's, St. George's, and of the London Hospital rather than those of Edinburgh, have prevailed in Toronto and Kingston.

The local French influence on British medicine in Canada has been very slight. In the early decades of the century, when the cities were smaller, and the intercourse between the French and English somewhat closer, the reciprocal action was more marked. At that period English methods became somewhat the vogue among the French; several very prominent French Canadians were Edinburgh graduates. Attempts were made in the medical journals to have communications in both languages, but the fusion of the two sections of the profession was no more feasible than the

fusion of the two nationalities, and the development has progressed along separate lines.

AMERICA: 1860-1897.

The third period dates from about 1860, when the influence of German medicine began to be felt. The rise of the Vienna school was for a long time the only visible result in Germany of the French renaissance. Skoda, the German Laennec, and Rokitansky, the German Morgagni, influenced English and American thought between 1840 and 1860, but it was not until after the last date that Teutonic medicine began to be felt as a vitalising power, chiefly through the energy of Virchow. After the translation of the *Cellular Pathology* by Chance (1860) the way lay clear and open to every young student who desired inspiration. There had been great men in Berlin before Virchow, but he made the town on the Spree a Mecca for the faithful of all lands. From this period we can date the rise of German influence in the profession of this continent. It came partly through the study of pathological histology under the stimulus given by Virchow, and partly through the development of the specialities, particularly diseases of the eye, of the skin, and of the larynx. The singularly attractive courses of Hebra, the organisation on a large scale in Vienna of a system of graduate teaching, designed especially for foreigners, the remarkable expansion of the German laboratories, combined to divert the stream of students from France. The change of allegiance was a deserved tribute to the splendid organisation of the German Universities, to the untiring zeal and energy of their professors, and to their single-minded devotion to science for its own sake.

MEDICINE IN AUSTRALASIA.

In certain aspects the Australasian settlements present the most interesting problems of Greater Britain. More homogeneous, thoroughly British, isolated, distant, they must work out their destiny with a less stringent environment than, for example, surrounds the English in Canada. The traditions are more uniform, and, of whatever character, have filtered through British channels. The professional population of native-trained men is as yet small, and the proportion of graduates and licentiates from the English, Scotch, and Irish Colleges and Boards guarantees the dominance of old country ideas. What the maturity will show cannot be predicted, but the vigorous infancy is full of "crescent promise." On looking over the files of Australian and New Zealand journals one is impressed with the monotonous similarity of the diseases in the Antipodes to those of Great Britain and of this continent. Except in the matter of parasitic affections and snake bites, the nosology presents few distinctive qualities. The proceedings of the four Intercolonial Congresses indicate a high level of professional thought. In two points Australia has not progressed as other parts of Greater Britain. The satisfactory regulation of practice, so early settled in Canada, has been beset with many difficulties. Both in the United States and in Australia the absence of the military element, which was so strong in Canada, may, in part at least, account for the great difference which has prevailed in this matter of the State licence. The other relates to the question of ethics, to which one really does not care to refer, were it not absolutely forced upon the attention in reading the journals. Elsewhere professional squabbles, always so unseemly and distressing, are happily becoming very rare, and in Great Britain and on this side of the water we try at any rate to wash our dirty linen at home. In the large Australian cities differences and dissensions seem lamentably common. Surely they must be fomented by the atrocious system of election to the hospitals, which plunges the entire profession every third or fourth year into the throes of a contest in which the candidates have to solicit the suffrages of from 2,000 to 4,000 voters. Well indeed might Dr. Batchelor, in his address to the Fourth Intercolonial Congress, say: "It is a scandal that in any British community, much less in a community which takes pride in a progressive spirit, such a pernicious system should survive for an hour."

MEDICINE IN HINDUSTAN.

Of India, of 'Vishnu-land,' what can one say in a few minutes? Three thoughts at once claim recognition. Here in the dim dawn of history, with the great Aryan people, was

the intellectual cradle of the world. To the Hindus we owe a debt which we can at any rate acknowledge; and even in medicine many of our traditions and practices may be traced to them, as may be gathered from that most interesting *History of Aryan Medical Science* by the Thakore Sahib of Gondal.

Then there arises the memory of the men who have done so much for British medicine in this great empire. Far from their homes, far from congenial surroundings, and far from the stimulus of scientific influences, Annesley and Ballingall, Twining, Morehead, Waring, Parkes, Cunningham, Lewis, Vandyke Carter, and many others have nobly upheld the traditions of Harvey and of Sydenham. On the great epidemic diseases how impoverished would our literature be in the absence of their contributions. But then there comes the thought of "the little done, the undone vast" when one considers the remarkable opportunities for study which India has presented. Where else in the world is there such a field for observation in cholera, leprosy, dysentery, the plague, typhoid fever, malaria, and in a host of other less important maladies? And what has the British Government done towards the scientific investigation of the diseases of India? Until recently little or nothing, and the proposal to found an institute for the scientific study of disease has actually come from the native chiefs. The work of Dr. Hankin and of Professor Haffkine, and the not unmixed evil of the brisk epidemic of plague in Bombay, may arouse the officials to a consciousness of their shortcomings. While sanitary progress has been great, as shown in a reduction of the mortality from 69 per mille before 1857 to 15 per mille at present, many problems are still urgent, as may be gathered from Dr. Harvey's Presidential Address in the Proceedings of the Indian Medical Congress. That typhoid fever can be called the "scourge of India," and that the incidence of the disease should remain so high among the troops, points to serious sanitary defects as yet unremedied. As to the prevalence of venereal disease among the soldiers, an admission of nearly 500 per mille tells its own tale. On reading the journals and discussions one gets the impression that things are not as they should be in India. There seems to be an absence of proper standards of authority. Had there been in each Presidency during the past twenty years well-equipped Government laboratories in charge of able men, well trained in modern methods, the contributions to our knowledge of epidemic diseases might have been epoch making, and, at any rate, we should have been spared the crudeness which is evident in some of the work (particularly in that upon malaria) of zealous but badly-trained men.

THE FUTURE OF MEDICINE IN GREATER BRITAIN.

In estimating the progress of medicine in the countries comprising Greater Britain, the future rather than the present should be in our minds. The strides which have been taken during the past twenty years are a strong warrant that we have entered upon a period of exceptional development. When I see what has been accomplished in this city in the short space of time since I left I can scarcely credit my eyes. The reality exceeds the utmost desires of my dreams. The awakening of the profession in the United States to a consciousness of their responsibilities and opportunities has caused unparalleled changes, which have given an impetus to medical work which has already borne a rich harvest. Within two hundred years who can say where the intellectual centre of the Anglo-Saxon race will be? The mother country herself has only become an intellectual nation of the first rank within a period altogether too short to justify a prediction that she has reached the zenith. She will probably reverse the history of Hellas, in which the mental superiority was at first with the colonies. At the end of the next century ardent old-world students may come to this side, "as o'er a brook" seeking inspiration from great masters, perhaps in this very city; or the current may turn towards the schools of the great nations of the South. Under new and previously unknown conditions the Africander, the Australian, or the New Zealander may reach a development before which even the "glory that was Greece" may pale. Visionary as this may appear, it is not one whit more improbable to-day than would have been a prophecy made in 1797 that such a gathering as the present would be possible within a century on the banks of the St. Lawrence.

Meanwhile to the throbbing vitality of modern medicine the two great meetings held this month, in lands so widely distant, bear eloquent testimony. Free, cosmopolitan, no longer hampered by the dogmas of schools, we may feel a just pride in a profession almost totally emancipated from the bondage of error and prejudice. Distinction of race, nationality, colour, and creed are unknown within the portals of the temple of Æsculapius. Dare we dream that this harmony and cohesion so rapidly developing in medicine, obliterating the strongest lines of division, knowing no tie of loyalty but loyalty to truth—dare we hope, I say, that in the wider range of human affairs a similar solidarity might ultimately be reached? Who can say that the forges of Time will weld no links between man and man stronger than those of religion or of country? Some son of Beor, touched with a prophetic vision, piercing the clouds which now veil the eternal sunshine of the mountain top, some spectator of all time and all existence (to use Plato's expression) might see in this gathering of men of one blood and one tongue a gleam of hope for the future, of hope, at any rate, that the great race, so dominant on the earth to-day, may progress in the bonds of peace—a faint glimmer, perhaps, of the larger hope of humanity of the day when "the common sense of most shall hold a fretful world in awe." But these, I fear, are the dreams of the closest student who knows not the world nor its ways. There remains for us, Greater Britons, of whatsoever land, the bounden duty to cherish the best traditions of our fathers, and particularly of the men who gave to British medicine its most distinctive features; of the men, too, who found for us the light and liberty of Greek thought—Linacre, Harvey, and Sydenham—those "ancient founts of inspiration," and models for all time in literature, science, and practice.

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ADDRESS IN SURGERY

BY

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At the Annual Meeting of the British Medical Association at Montreal, September, 1897.

THE SURGEON OF OLD IN WAR.

I AM indeed greatly honoured by having to deliver to you to-day an Address in Surgery. Fortunately for me the title is a wide one, and I shall take advantage of that fact to diverge from the strict consideration of surgical disease, and shall offer you instead a brief sketch of some of the most notable work done of old by a body of members of our profession who have never received their due reward—those, namely, who have devoted their lives to the succour of the sick and the wounded in war.

MILITARY SURGEONS IN THE ROMAN ARMY.

Twelve months ago my friend, Dr. Barnes, of Carlisle, ex-President of this Association, made me acquainted with a remarkable paper by the late Sir James Simpson, entitled *Was the Roman Army provided with Medical Officers?*—a paper exhibiting such profound learning, so charmingly written, and so little known that I need not make any apology for acquainting you with some of its chief points of interest.

The most careful investigations have failed to make out from their writings whether the Romans regularly appointed physicians and surgeons to their armies or not, although nearly every other question relating to their military organisation has been treated of, sometimes very fully. Curiously enough, what little information we possess on the subject comes mainly from mortuary or from votive tablets. Borcovicus, in Northumberland—now called Housesteads—was one of the principal stations on the line of Hadrian's wall. Here, about seventy years ago, was found a