

Short Title of Thesis

SIR WILLIAM OSLER'S CONTRIBUTION TO MEDICAL EDUCATION

Wise

SIR WILLIAM OSLER'S CONTRIBUTION TO MEDICAL EDUCATION
WITH SPECIAL EMPHASIS ON CLINICAL TRAINING
AND THE
DILEMMA OF WHOLE-TIME PROFESSORSHIP

Audrey Maureen Wise

A THESIS PRESENTED TO THE FACULTY OF
GRADUATE STUDIES AND RESEARCH,
MCGILL UNIVERSITY, IN
PARTIAL FULFILLMENT
OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF ARTS

AUGUST, 1978.

ABSTRACT

Sir William Osler made significant contributions to medical education. His reforms still serve today's generation of medical educators.

Osler's most important innovations relate to his method of teaching medicine. He took the students out of the lecture-halls and put them into the wards and laboratories, where they could use their power of observation. Osler also enforced higher entrance requirements and introduced the system of residents, as known today in North America.

The question of whole-time clinical professorship overshadowed the last decade of Osler's life. He was in favour of full-time professors keeping their private practice. Osler's opponents accused him of supporting a system that was most lucrative financially. Since the introduction of Medicare in Canada, governmental authorities are supervising the income of doctors, eliminating potential abuses. Therefore, today, the advantages of Osler's system prevail, without its disadvantages.

RESUME

La contribution à l'enseignement de la médecine de Sir William Osler est très importante. Ses innovations sont encore utilisées aujourd'hui par les enseignants de la médecine.

La réforme la plus importante de Osler s'applique à la méthode de l'enseignement médical. Osler a fait sortir les étudiants des salles de cours magistraux pour les placer dans les salles d'hôpitaux et des laboratoires pour qu'ils puissent se servir davantage de leur capacité d'observation. Osler a aussi imposé des exigences plus rigoureuses à l'admission et il a introduit le système de résidence tel que nous le connaissons aujourd'hui en Amérique du Nord.

Pendant ses dernières années, Osler se préoccupait de la question d'engagement de professeurs à temps plein. Osler était en faveur de permettre aux professeurs à temps plein de garder leurs patients privés. Ceux qui s'opposaient à cette idée ont accusé Osler de maintenir son système parce qu'il en avait profité financièrement. Depuis l'établissement du système d'assurance santé au Canada, les autorités gouvernementales exercent une surveillance générale sur les revenus des médecins et les possibilités d'abus sont éliminées. C'est pourquoi nous profitons aujourd'hui des avantages du système, conçu par Osler, sans être exposés à ses inconvénients.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	ii
INTRODUCTION	1
CHAPTER I FROM BOND HEAD TO OXFORD	13
CHAPTER II OSLER, THE EDUCATOR	29
CHAPTER III MEDICAL CONTROVERSY - FULL-TIME CLINICAL TEACHING	61
CHAPTER IV CONCLUSION	140
BIBLIOGRAPHY	147

"A GREAT UNIVERSITY HAS A DUAL FUNCTION,
TO TEACH AND TO THINK."

Sir William Osler, "Teaching and Thinking: The Two Functions
of a Medical School," Address at the Faculty of Medicine,
McGill University, January 8, 1895.

ACKNOWLEDGEMENTS

The writer wishes to express heartfelt thanks to Dr. J. Keith Jobling of McGill University, her thesis adviser. Dr. Jobling was the first to arouse my interest in the history of McGill and introduce me to the treasures of the Archives at the University. As he unsparingly offered his time and energy during his sabbatical year, his guidance and support is especially appreciated.

The author wishes to acknowledge the invaluable help given by Dr. Roger P. Magnuson, Director of Graduate Studies in Education, McGill University, who contributed significantly to the focusing of the thesis subject. I made excellent use of Dr. Magnuson's personal notes he so kindly lent me while dealing with the nature of the University. His constructive criticism and comments were of great help in the development of this work.

My gratitude is also due to other professors of the Department of Social Foundations of Education, McGill University. Dr. Margaret Gillett, Professor of Education, taught me the techniques of preparing an outline and familiarized me with the scientific method used in structuring the accumulated material. Dr. Hermione Shantz read the first drafts of this thesis and helped me to channel the diffuse information into an organized format. Professor William Ryan was

most helpful with his suggestions and ideas. Professor Lewis B. Birch, Macdonald Professor of Education, gave his personal attention and valuable time in connection with the research of my material.

A special word of appreciation is extended to Dr. Donald G. Bates, Chairman, Department of the History of Medicine, Faculty of Medicine, McGill University. He introduced me to the concept of whole-time clinical professorship.

I would also like to express my appreciation to Dr. Edward Horton Bensley, Emeritus Professor of Medicine, Faculty of Medicine, McGill University. Dr. Bensley received me several times and expressed his views on various subjects discussed in the thesis. He elaborated on my source material and drew my attention to important secondary sources.

No thesis can be prepared without thorough research. Miss Marilyn Fransiszyn, Reference and Manuscripts Librarian of the Osler Library was most helpful during the many months I worked on assembling my material.

A.M.W.

INTRODUCTION

Sir William Osler made a significant contribution to the training of Canadian and American doctors. In spite of the great advancements in medicine since his death, Osler's innovations in the education of physicians still serve as a guidepost to today's generation of medical educators. In order to appreciate Osler's contribution in this field, his whole career must be reviewed. Only by considering all facets of his accomplishments can we understand his success as an educator.

Although this study is not intended as a comprehensive biography, reference will be made to Osler's early education and family background. His school years and his first teaching job at McGill will also be discussed, as these early years left a deep impact on Osler and he carried with him through all his life the influence of his first teachers.¹

It is the purpose of this thesis to demonstrate Osler's importance in the development of medical education during the late nineteenth century and the first decades of our century. Considering how Osler was appreciated by

1. R. Palmer Howard, M.D., "The Men Who Inspired William Osler," in John P. McGovern, M.D. and Chester R. Burns, M.D., (Eds.), Humanism In Medicine, (Springfield, Illinois: Charles C. Thomas, 1973), p. 41.

his peers at the medical teaching institutions in North America and Britain, it is remarkable that so little attention has been paid to his achievements by educational theorists. Physicians who knew him, admired his work and the results of his efforts and filled innumerable pages of medical journals and books with eulogies, anecdotes and reminiscences about "The Chief."² However, nobody, unaffiliated with medical faculties, attempted to write either a definitive biography or an evaluation of Osler's accomplishments and his influence on medical education. Even works with a more limited objective, written by educators not specializing in medicine, are not in abundance.

One well known work in this field is Medical Education in the United States and Canada by Abraham Flexner,³ who made the first thorough survey of all medical teaching facilities in North America. Flexner's work, however, concentrated on the institutions and did not analyze the contribution made by the staff of the medical facilities. Nor did Flexner

2. Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926). This Memorial Edition of the Journal contains several hundreds of pages written by Osler's colleagues and students. It is housed in the Osler Library.

3. Abraham Flexner, Medical Education in the United States and Canada. Report to the Carnegie Foundation for the Advancement of Teaching, (New York: Updike, 1910).

3

give any credit to Osler for changes and improvements introduced at Johns Hopkins University. Osler's educational reforms were dealt with in summary form by his contemporaries, while more recent works examine only one single aspect of his accomplishments, instead of discussing all his educational achievements.⁴

Osler's reforms in the field of medical education warrant a review of his work from the educational point of view. This thesis will attempt to examine the career of William Osler, physician, educator, medical researcher and author. The focus will be on Osler's reforms in medical education, although I will deal with several other aspects of his accomplishments, in order to present a complete picture.

Before Osler's concepts were generally applied, many medical schools granted degrees without the student ever having seen a patient.⁵ Due to Osler's influence, many medical

4. John P. McGovern, M.D., and Charles G. Roland, M.D., (Eds.), Wm (sic) Osler: The Continuing Education, (Springfield, Illinois: Charles C. Thomas, 1969).

5. Flexner, p. 194. Hahneman Medical College of the Pacific, San Francisco, California.
p. 221. Valparaiso University, Valparaiso, Indiana.
p. 227. Western Eclectic College of Medicine, Topeka, Kansas.
p. 238. Atlantic Medical College, Baltimore, Maryland.
p. 249. Mississippi Medical College, Meridian, Mississippi.
p. 251. University of Missouri School of Medicine, Columbia, Missouri.

colleges raised their admission standards.⁶ Teaching methods at medical institutions were completely changed. Osler took his students out of the lecture-halls and placed them into the wards.⁷ It was the cornerstone of Osler's educational philosophy that students should participate in the learning process. He felt that education was a matter of learning from one's own experience and therefore he involved his students in the various clinical activities. Osler introduced a system of resident physicians,⁸ trained at hospitals in the intricacies of their specialty.

Osler himself described the Oslerian method of teaching: "In the natural method of teaching the student begins with the patient, continues with the patient, and ends his studies with the patient, using books and lectures as

6. William Osler, "Intensive Work in School Science," Nature 96 (January 1916): 554.

William Osler, "Teaching and Thinking: The Two Functions of a Medical School," Montreal Medical Journal 23 (1894-5): 567. "There are men who have never had the preliminary education which would enable them to grasp the fundamental truths of the science on which medicine is based."

7. William Osler, "The Fixed Period," in Aequanimitas and Other Papers that Have Stood the Test of Time, Edited by Paul Dudley White, M.D., (New York: W.W. Norton and Company, 1963), p. 203.

8. William H. Welch, "Memorial Speech," The Johns Hopkins Alumni Magazine 9 (1920): 305.

tools, as a means to an end...."⁹ Even today, sixty years after his death, Osler's ideas are followed. Although lectures are still part of medical education, the work of the students is concentrated in the hospitals. They get acquainted with the human body at the dissecting tables and at the bedside of patients,¹⁰ just as Osler had recommended.

Osler advocated that clinical professors remain active in general practice. While he agreed that professors of pre-clinical subjects should spend all their time on research and teaching,¹¹ he was against whole-time clinical professorship.

In Osler's days the terms whole-time and full-time were used synonymously. Osler's letter to President Remsen is entitled "Whole-Time Clinical Professors,"¹² while elsewhere other authorities use the term full-time clinical professors.¹³

9. William Osler, M.D., "The Natural Method of Teaching the Subject of Medicine," The Journal of the American Medical Association 36 (June 1901): 1673.

10. W. Gerald Austen, M.D., and Thomas D. Kinney, M.D., "The Content of Undergraduate Medical Education," In Judy Graves, (ed.), The Future of Medical Education, (Durham, North Carolina: Duke University Press, 1973), p. 80.

11. William Osler, Whole-Time Clinical Professors. Letter from Sir William Osler to President Ira D. Remsen, President, Johns Hopkins University. Dated September 1, 1911. Family letter, strictly unpublished collection of "confidential reports, correspondence, etc., on the Johns Hopkins Medical School including original draft of letter to Remsen," contained in the Osler Library (No. 7651) in two volumes dated 1911 and 1913-14.

12. Ibid.

13. Alan M. Chesney, M.D., The Johns Hopkins Hospital and The Johns Hopkins University School of Medicine -- A Chronicle: Early Years: 1867-1893, 3 vols. (Baltimore: The Johns Hopkins Press, 1943), 3:256. Barker's speech quoted by Chesney.

In this thesis the two terms are used interchangeably in their historic context. However during the past three decades the usage has changed and only "full-time" is now acceptable.¹⁴ Accordingly when dealing with this question during the time-frame of the second half of the twentieth century, only the term full-time is used, in order to be faithful to its modern usage.¹⁵

It is the opinion of the writer that Osler defended the "old" system at Johns Hopkins Medical School as he considered Flexner's recommendation for its change an accusation: it implied that Osler and his colleagues benefited financially from the combination of teaching medicine and being medical consultants to the prominent citizens of the community.¹⁶

This thesis will attempt to prove that in spite of the strong position taken by Osler against full-time clinical professorships in 1911, he was not really condemning the pedagogical concept. Osler was mainly objecting to the source of the criticism, as Abraham Flexner was not a medical man. The

14. Joseph C. Hinsey, "Full-Time Clinical Faculty: An Interpretation of the Problem As It Concerns Medical School Administration," Journal of the American Medical Association 162 (September 1956): 17.

15. Personal Communication. Dr. Donald G. Bates, Professor of Medicine, McGill University, Montreal. July 25, 1978.

J.A. MacFarlane et al., Medical Education in Canada, Royal Commission on Health Services, (Ottawa: Queen's Printer, 1965), p. 97.

16. Abraham Flexner, Report on the Johns Hopkins Medical School. Confidential Report for the Consideration of the Chairman of the Administrative Committee of the Johns Hopkins Medical School. (Baltimore, Maryland, From the Archives of the Osler Library, McGill University, 1910).

controversy surrounding this question will be dealt with separately in this thesis.

In order to understand Osler, all other fields of his interest must be examined. Above all, he must be considered as a physician. A doctor's efforts have various aspects that include his endeavours as a clinical technician, his work as a diagnostician and his personal impact as a healer of the sick. This last subject is the most difficult one.¹⁷ Osler was interested in many spheres of clinical medicine. He was a "specialized generalist and a generalized specialist." Few of his contemporaries had a wider or a more profound knowledge of typhoid fever, malaria and malignant endocarditis.¹⁸

Osler's efforts as a propagandist of public health measures were so far reaching that many considered it his greatest service to his generation.¹⁹ His many lectures, well publicized in the daily newspapers, were most effective: the politicians of the day did not dare to stand in the way when Osler was advocating

17. C.E. Newman, "Osler as a Physician," Oslerian Anniversary, (London: The Osler Club of London, 1976), p. 9.

18. Joseph H. Pratt, A Member of the Class of 1898 - A Year With Osler 1896-1897: Notes Taken at his Clinics in the Johns Hopkins Hospital, (Baltimore: The Johns Hopkins Press, 1949), p. xvii.

19. Huntington Williams, M.D., "Osler and Welch: Founders of Modern American Public Health," Virginia Medical Monthly (June 1953): 13.

his reforms that improved the sanitation of American and Canadian cities.²⁰

Osler's Principles and Practice of Medicine, published in 1892²¹ was a tremendous achievement and became recognized as the standard textbook of Canadian and American universities. Osler's work offered unsurpassed clinical descriptions of the natural history of diseases.²² His therapeutic nihilism and trust of Mother, Rest and Father Time came to the fore in the textbook, as it represented clinical wisdom since few remedies of his time had any value.²³

While carrying on his professional career on a daily basis, Osler wrote editorials, book reviews and commentaries. He was also the editor of at least one medical journal during

20. Edith Gittings Reid, The Great Physician: A Short Life of Sir William Osler, (London: Oxford University Press, 1931), p. 123.

21. J. McMichael, "Osler: The Textbook and Education In Medicine," The Canadian Medical Association Journal 58 (January 1948): 85.

22. William B. Bean, M.D., "Osler, the Legend, the Man and the Influence," Canadian Medical Association Journal 95 (November 1966): 1036.

23. Emile Holman, M.D., "Osler and Halsted, A Contrast In Personalities," in John P. McGovern, M.D. and Chester R. Burns, M.D., (eds.), Humanism In Medicine, (Springfield, Illinois: Charles C. Thomas, 1973), p. 23.

the last twelve years of his life.²⁴ Through his articles he kept in touch with the medical world of his day. Osler's journalistic efforts contributed to the dissemination of his ideas and are therefore of importance to anyone studying his influence on medical education.

In order to obtain the necessary documentation for this thesis, the writer has consulted both primary and secondary sources. The most important primary sources are Osler's writings, dealing with his ideas relating to medical education. Most of his thoughts were expressed in articles written for medical journals. Osler was in great demand as a speaker at meetings of medical associations. Some of his speeches were reprinted in journals while others were edited and published in book form and were consulted by the writer. The Osler Library at McGill University has the most complete collection of Osler's works: Osler's own records, correspondence and personal library were, upon his death, donated to this institution.

The debate concerning full-time clinical professors was opened by Abraham Flexner's confidential report²⁵ about the

24. Charles G. Roland, M.D., "William Osler and Medical Journalism," The Journal of the American Medical Association 200 (May 1967): 116.

25. Abraham Flexner, Report on the Johns Hopkins Medical School. Confidential Report for the Consideration of the Chairman of the Administrative Committee of the Johns Hopkins Medical School.

future of Johns Hopkins Medical School. In addition to the writings of Osler, this Report is one of the important primary sources for my thesis. Correspondence between Osler, at that time Regius Professor in Oxford, and his former colleagues, Professors Welch, Kelly and Barker, who stayed in Baltimore after Osler's departure, contribute a great deal of information.

Another primary source is Osler's Principles and Practice of Medicine²⁶ which permits the reader to sample the magic of a scientific textbook, that can be enjoyed by laymen, without understanding most of the material. Osler's Aequanimitas²⁷ was an ideal source in helping the writer understand Osler's philosophy of life.

Newspaper articles from the first two decades of the twentieth century helped the writer understand the background of the great debate concerning full-time clinical professors. Clippings from Baltimore papers, from the year 1913 are an especially interesting source, as they outlined the stipulations of the Rockefeller Foundation in connection with the offer of a one-and-a-half million dollar grant to the Johns Hopkins Medical School.

26. William Osler, M.D., The Principles and Practice of Medicine: Designed for the Use of Practitioners and Students of Medicine, (New York: D. Appleton and Company, 1909).

27. William Osler, Aequanimitas: With Other Addresses to Medical Students, Nurses and Practitioners of Medicine, (Philadelphia: The Blakiston Company, 1906).

Research for this thesis was greatly helped by the work of Maude Abbott, a classified bibliography of all of Osler's writings in chronological order and subdivided, according to the subject matter, into seven categories.²⁸ The recently published An Annotated Checklist of Osleriana was also very useful as it is a compendium of articles about Osler, classified in alphabetical order, according to their authors.²⁹

The work of Dr. William Willoughby Francis was also very helpful. He was Osler's nephew, who later became librarian of the Bibliotheca Osleriana. Dr. Francis' comments on the material in the library are significant secondary sources. Other valuable secondary sources are to be found in the reminiscences of Osler's colleagues and students. Some appeared in medical journals, others were published in book form,³⁰ edited by Osler's admirers.

Sir William Osler's most important contribution to medical education was his novel approach. He realized that his

28. Maude E. Abbott, M.D., Editor Bulletin No. IX of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences Montreal, Privately issued, 1926.

29. John P. McGovern, M.D., Earl F. Nation, M.D., and Charles G. Roland, M.D., An Annotated Checklist of Osleriana, (Edinburgh, Scotland: The Kent State University Press, 1976).

30. Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciation and Reminiscences (January 1926).

natural method of teaching, characterized by placing his students in the wards to see and observe was "a complete revolution...in the methods of instruction."³¹ Even today, nearly sixty years after Osler's death, this is the only accepted technique of teaching medicine in schools all over the world.

31. William Osler, M.D., "The Natural Method of Teaching the Subject of Medicine," The Journal of the American Medical Association 36 (June 1901): 1673.

CHAPTER I
FROM BOND HEAD TO OXFORD

William Osler was born on July 12, 1849, at Bond Head, Ontario, a small community west of Lake Simcoe. Today Route 400, the superhighway leading to the Lake Muskoka "cottage country," runs about four miles from this village. At the time of Osler's birth, Bond Head was a sparsely populated community, with a population of two hundred. The nearest post office was twelve miles away and it was a ride of fifteen miles to a doctor. Nevertheless, Bond Head had an Anglican village church, and Osler's father, The Reverend Featherstone Lake Osler, was the minister.¹

Osler's father was a new arrival in Canada - he and his bride had arrived in 1837.² Osler came from Cornwall England, where his forefathers were shipbuilders and merchants. The love of the ocean was in the blood of young Featherstone and he was sent "inland to a boarding school lest he should be drowned."³ Nevertheless, while in his teens he signed up

1. W. R. Bett, Osler: The Man and the Legend, (London: Heineman Medical Books Ltd., 1959), p. 5.

2. Harvey Cushing, The Life of Sir William Osler, (London: Oxford University Press, 1940), p. 9.

3. Ibid., p. 8.

with the Royal Navy and saw several years of service travelling across the world.⁴

Then came a sudden change of heart. Featherstone Osler became a Mathematical Scholar at Cambridge.⁵ In the same year, he passed the examination for Holy Orders and decided to go to Canada, where the position in Bond Head was awaiting him.⁶

William Osler was not the only one who achieved prominence in his family of nine children.⁷ One of his brothers was the Honourable Featherstone Osler. He was a lawyer, who practised in Toronto. Later he was appointed Justice of the Court of Appeal for Ontario.⁸ On his retirement from the Bench, he was chosen President of the Toronto General Trusts Corporation.⁹ Another brother, Sir Edmund Boyd Osler was President of the Dominion Bank, Director of the Canadian Pacific Railway and a

4. Anne Wilkinson, Lions In the Way: A Discursive History of the Oslers, (Toronto: The Macmillan Company of Canada Limited, 1956), p. 5.

5. Cushing, p. 8.

6. Bett, p. 4.

7. Edith Gittings Reid, The Great Physician: A Short Life of Sir William Osler, (London: Oxford University Press, 1931), p. 198.

8. W. W. Francis, M. D., "The Osler Family," British Medical Journal, 2 (July 1949): 46.

9. Wilkinson, p. 171.

member of the House of Commons for many years.¹⁰

In 1857, the Osler family moved to Dundas, situated on the extreme western tip of Lake Ontario, halfway between Toronto and Niagara.¹¹ Here William attended the local grammar school until 1864, when his high spirits involved him in so many scrapes that he was expelled.¹² In the autumn of that year, at the age of fifteen, he was sent to a grammar school at Barrie.¹³ In January 1866, he was enrolled at a newly opened school in Weston, a town a few miles west of Toronto.¹⁴ There he came under the influence of Reverend W. A. Johnson who played an important part in arousing Osler's interest in science.¹⁵

Johnson was a true leader of his students. He showed

10. Ibid., pp. 187-189.

11. Orville Barbour, M.D., The Life of Sir William Osler, (Peoria, Illinois: Published by the author in pamphlet form, 1933), p. 4.

12. Crawford F. Barnett, Jr., "Sir William Osler: Author, Clinician, Teacher Extraordinaire," The New Physician 12 (May 1963): A-56.

13. Reid, pp. 6-7.

14. Paul Potter, "Sir William Osler: Man, Physician, Scientist," The University of Western Ontario Medical Journal 47 (November 1977): 2.

15. Rev. H. Symonds, "Memorial Sermon To The Late Sir William Osler, Bart., M.D., F.R.S.," Preached in Christ Church Cathedral, Montreal, Jan. 18, 1920. The Canadian Medical Association Journal Memorial Number Sir William Osler, (July 1920): 11.

them "with the microscope the marvels in a drop of dirty pond water."¹⁶ In 1867 Osler entered Trinity College, a Church of England Institution which prepared its students for the Ministry.¹⁷ While at Trinity, Osler lodged with Dr. James Bovell, who practised medicine in Toronto and was also a teacher at Trinity College. Dr. Bovell and Johnson taught Osler how to use a microscope and prepare specimens.¹⁸ Although originally Osler considered entering the Church, he was fascinated by science and started to attend medical school.¹⁹ As Osler explained "From the study of nature to the study of man was an easy step."²⁰

After the summer holidays Osler returned to Trinity for his second year, but within a few days decided to make medicine his career.²¹ He spent two years at medical school in Toronto,

16. William Osler, "Intensive Work In School Science," Nature 96 (January 1916): 554.

17. Norman B. Gwyn, "The Early Life of Sir William Osler, his Cultural and Scientific Training," Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 134.

18. Thomas W. M. Cameron, "Sir William Osler - Parasitologist," Canadian Medical Association Journal 30 (May 1934): 553.

19. John H. Talbott, "Biographical Essay," Journal of the American Medical Association 12 (December 1969): 2269.

20. Osler, p. 554.

21. Bett, p. 7.

and then came to McGill, as it "was undoubtedly the leading school in Canada. Certainly its clinical facilities were the best and it is stated by no less authority than Cushing that its only equal on the continent was to be found in Philadelphia."²² While studying at McGill, Osler did his clinical work at the Montreal General Hospital in 1870.²³ Here Osler came under the influence of Robert Palmer Howard whom he later described as an "ideal teacher".²⁴

Osler was not a Gold Medalist in his graduating year at McGill but he received the following honourable mention:

The Faculty has, in addition, this session awarded a special prize to the thesis of William Osler, of Dundas, Ontario, because it was greatly distinguished for originality and research and was accompanied by thirty-three microscopic and other preparations of morbid structures kindly presented by the author to the museum of the Faculty.²⁵

22. H. Rocke Robertson, M.D., "Osler and B.C.," The Bulletin of the Vancouver Medical Association 34 (April 1958): 362.

23. Sir Arthur S. MacNalty, M.D., "Sir William Osler," British Medical Journal 2 (July 1949): 41.

24. Lewellys F. Barker, M.D., "Osler In America: With Especial Reference to His Baltimore Period," The Canadian Medical Association Journal 33 (October 1935), 353.

25. F. J. Shepherd, "Dr. Osler in Montreal," Dinner To Dr. William Osler Previous to his Departure for England to Assume the Regius Professorship of Medicine in the University of Oxford, James Tyson - Chairman, Waldorf Astoria, May 2, 1905, Privately printed, 1905, p. 6.

The next two years he worked in London, Berlin, Paris and Vienna where he concentrated on pathology, physiology and clinical medicine.²⁶ He spent seventeen months at University College in London, under Professor John Burdon Sanderson, whom he succeeded, in his position as Regius Professor at Oxford, thirty-three years later.²⁷ During his stay in London, Osler was the first to describe the blood platelets.²⁸ After his return to Montreal in 1874, Osler was appointed lecturer at the Institute of Medicine of McGill University.²⁹

In this capacity Osler was striving to satisfy the criteria that he himself had established for a professor: a feeling of enthusiasm, a complete knowledge of his subject and a sense of obligation towards his students.³⁰ Although he considered the preparation of lectures a ghastly, boring task,³¹ he felt that lectures must be made interesting in order to command the

26. Barker, p. 353.

27. MacNalty, p. 27.

28. Bett, p. 67. The "aggregation" of blood platelets is known as "Osler's Phenomenon."

29. Arthur S. Freese, "He Was Family Doctor To The World," Today's Health 46 (June 1968): 39.

30. William Osler, "On the Hospital Unit in University Work," Northumberland and Durham Medical Journal 18 (1911): 181.

31. Sir William Osler, "The Medical Clinic," The British Medical Journal 1 (January 1914): 11.

attention and interest of the students.³² While teaching at the Institute of Medicine, Osler also worked at the smallpox ward of the Montreal General Hospital for a small salary.³³ He used this extra income to equip his department with much needed microscopes.³⁴

In 1876, Osler was appointed pathologist³⁵ to the newly established smallpox hospital. In this position, Osler performed more than a thousand autopsies, examined specimens of diseased tissues, labelled and filed them for reference, "applying the knowledge gained to the patients in his care".³⁶ During these years, Osler was regularly in the wards with his students, seeing patients and having them examined by the students instead of only giving lectures.³⁷

In 1877, Dr. Osler was appointed Registrar of the McGill Medical School. As Registrar, he met the entire student body³⁸

32. Reid, p. 43.

33. Ibid., p. 47.

34. Ibid., pp. 46-47.

35. Benjamin H. Robbins, M.D. and Amos Christie, M.D., "Sir William Osler the Pediatrician," American Journal of Diseases of Children 106(December 1963): 125.

36. Wilder Penfield, "Osler Voice," in John P. McGovern, M.D., and Chester R. Burns, M.D. (eds.), Humanism in Medicine, (Springfield, Illinois: Charles C. Thomas, 1973), p. 34.

37. Ibid., p. 58.

38. William Osler, "Introductory Lecture," Canada Medical and Surgical Journal 5 (1877): 204-10.

as they were admitted. "His memory for names and faces was remarkable and he was able to catch and hold in his mind the dominant note in the character of the people he met."³⁹

One year later, Osler was appointed to the staff of the Montreal General Hospital.⁴⁰

Osler felt that he should see the world. "Personal, first-hand intercourse with men of different lands, when the mind is young and plastic, is the best vaccination against the disease."⁴¹ He went to London in 1881 and attended a Congress of Surgeons in Berlin. Then Osler spent a few months in Leipzig, where he worked under Cohnheim and Karl Ludwig.⁴²

While in Leipzig, Osler received an appointment to the Chair of Clinical Medicine at the University of Pennsylvania, a post he held from 1884 to 1889.⁴³ When Osler arrived in Philadelphia, the aftermath of the Civil War had still left traces of bitterness and there was much sectional prejudice.

39. Reid, p. 58.

40. Ibid., pp. 58-59.

41. William Osler, "Chauvinism in Medicine," in Aequanimitas and Other Papers That Have Stood the Test of Time, Edited by Paul Dudley White, M.D., (New York: W. W. Norton and Company, 1963), p. 131.

42. Bett, p. 10.

43. Francis J. Shepherd, "Always An Optimist," New York Medical Journal 111 (May 1920): 13.

"The wounds of the South were raw and the North was inclined to put salt and not salve upon them."⁴⁴ Dr. Osler's appointment was ideal. As a Canadian, his presence did not stir up regional conflicts.

In Philadelphia, Osler did not have a private practice, as he felt that financial gain should not be the objective of a doctor's work. In his view, if a doctor earned more than a bare living, he was not honest in his work. True to his convictions, Osler gave his services free as a consultant.⁴⁵ Abraham Flexner's attack on Osler's integrity - a couple of decades later, - was especially unfair, considering Osler's approach to money-matters, illustrated above.

He spent most of his time at the "deadhouse" at Blockley, carrying out autopsies. The Blockley Hospital, originally the Philadelphia Almshouse, is the oldest hospital in the United States, housing more than 2,000 patients.⁴⁶

In addition to his duties as a professor and his work at the hospital, Osler found time to publish more than forty articles, covering nearly every phase of clinical medicine.⁴⁷ His name became known the world over and in 1885

44. Reid, p. 69.

45. Barbour, p. 4.

46. Talbott, p. 2269.

47. Reid, p. 79.

he was invited to deliver the Goulstonian Lectures, in London, England, containing his most valuable contribution on endocarditis, based on his own work done earlier at the Montreal General Hospital.⁴⁸ These lectures gave such a wonderful exposition of the pathology and diagnosis of endocarditis that, according to Cushing, they are unequalled in medical literature.⁴⁹

In 1888, Osler was offered the Chair of Medicine at Johns Hopkins, in Baltimore, the opportunity of his life.⁵⁰ The appointment became effective in 1889, when the hospital was opened. Several years later, Osler would write

The opening of the Johns Hopkins Hospital in 1889 marked a new departure in medical education in the United States. It was not the hospital itself, as there were many larger and just as good; it was not the men appointed, as there were others quite as well qualified; it was the organization. For the first time in an English-speaking country, a hospital was organized in units - each one in charge of a head or chief. 51

48. A. H. Gordon, "Acute Endocarditis," The Canadian Medical Association Journal 42 (February 1940): 182-3.

49. Cushing, p. 246.

50. Alan M. Chesney, M.D., The Johns Hopkins Hospital and The Johns Hopkins University School of Medicine - A Chronicle: First Years: 1867 - 1893, 3 vols. (Baltimore: The Johns Hopkins Press, 1943), 1: 105.

51. Reid, p. 91.

While the universities in Philadelphia and Montreal had already developed strong traditions, the university in Baltimore was both new, and independent, and therefore offered Osler an opportunity to put his educational theories into practice.⁵²

The funds for the new university came from a legacy by Mr. Johns Hopkins who, on his death in 1873, left the city of Baltimore seven million dollars. The donor specified the purpose of the bequest: to start a university to foster higher education and a hospital to relieve suffering.⁵⁴ The university was opened in 1876 and the medical faculty was started in 1883.

When Osler arrived in Baltimore, it was, in many respects, only an overgrown village. Its streets were paved with cobblestones and there were open sewers with puddles of dirty stagnant water.⁵⁵ Drinking water was drawn from public pumps located on the streets, drawing water from the contaminated

52. Ibid, p. 92.

53. John C. French, A History of The University Founded By Johns Hopkins; (Baltimore: The Johns Hopkins Press, 1946), p. 16.

54. Cushing, p. 311.

55. In a letter to the Canadian Medical and Surgical Journal 2 (1873-4): 308. In this respect Baltimore was not far behind Berlin where in 1873 Osler also found open sewers.

subsoil. The town had frequent outbreaks of typhoid fever. Osler became active in advocating preventive public health measures to control this disease.⁵⁶

Although Osler was especially interested in teaching undergraduate students, the Johns Hopkins Medical School was only opened in 1893, five years after his arrival in Baltimore. Between 1889 and 1893, he was engaged in what Osler called "the dry husks of graduate teaching" at the hospital and in developing the plans of the medical school.⁵⁷ Nevertheless, teaching at Johns Hopkins, even before the medical school opened, was an inspiration and a model for the entire medical world.⁵⁸

In 1892, at the age of forty-two, Osler married the great-granddaughter of Paul Revere.⁵⁹ Osler's only child,⁶⁰ Revere, was named after his illustrious ancestor.

56. Cushing, p. 378.

57. Joseph H. Pratt, A Member of the Class of 1898, A Year With Osler 1896-1897: Notes Taken at his clinics in the Johns Hopkins Hospital, (Baltimore: The Johns Hopkins Press, 1949), p. xvii.

58. Richard H. Shryock, The Unique Influence of the Johns Hopkins University on American Medicine, (Copenhagen: Ejnar Munksgaard, Ltd. 1953), p. 14.

59. H. P. Wright, M.D., "Osler, A Personal Tribute," The Canadian Medical Association Journal 61 (July 1949): 74.

60. Wilkinson, p. 197.

In 1905, Osler became Regius Professor of Medicine at Oxford University. Osler was very tired of his duties in Baltimore and once in England, he had expected to live a life of leisure.⁶¹ But leisure was not possible for him on either side of the ocean. Soon after his arrival, Osler started his clinics that were eagerly attended by doctors and medical students. He also lived up to his duties as the master of the almshouse at Ewelme⁶² and looked after the health of the old men living there.

Only the primary subjects were taught at Oxford Medical School. For clinical work the students had to go to London.⁶³ Oxford offered a learning, rather than a practical experience for the student. Osler was very involved in the organization of the various departments and in the teaching of the pre-clinical subjects. Osler sustained his interest in problems of anatomy, physiology and pathology.⁶⁴ A student or doctor,

61. MacNalty, p. 28.

62. Kenneth A. MacKenzie, M.D., "Sir William Osler (1849-1919) A Great Canadian," Nova Scotia Medical Bulletin 29 (1950): 4.

63. Archibald Malloch, "Sir William Osler at Oxford," The Canadian Medical Association Journal - Sir William Osler Memorial Number 10 (July 1920): 52.

64. Norman M. Keith, M., "William Osler at Oxford: A Reappraisal," Archives of Internal Medicine 106 (September 1960): 194.

engaged in a special study, was sure of a visit from the "Regius" to see how he was getting on, to be given suggestions to look up some article in a recent journal, or to be invited to Osler's house to look over old medical books that dealt with the history of the particular disease.⁶⁵

The Regius Professor of Medicine at Oxford was head of the medical school, and was also required to give lectures. In addition to his duties at the University, every Sunday morning Osler made rounds in the wards of the Radcliffe Infirmary - Just to keep my hand.⁶⁶

Osler was highly respected for his knowledge on medical questions and on matters of education and there was hardly a committee concerned with these problems which did not have him as one of its active members. He was a member in the Association of Physicians of Great Britain and Ireland, and was on the Council of the Royal Society of Medicine.⁶⁷

It is hardly an exaggeration to say that almost every medical man from Canada or the United States who came to England for any length of time went to Oxford to see Osler. This was also the case with many visitors who were not of

65. Barker, p. 355.

66. Malloch, p. 53.

67. A. D. Kelly, M.D., "Organization Man," The Canadian Journal of Surgery 13 (October 1970): 338.

the profession.⁶⁸ It has been told many times that people would say while on board a ship "the first thing I want to do when we reach England is to see Osler". The "Open Arms" was the name given to Osler's house by an undergraduate.⁶⁹ In addition to being a good host, Osler was in great demand as a celebrity - invitations to teas, luncheons and dinners poured in.⁷⁰

The academic atmosphere of Oxford made a great impression on Osler and his publications during that period show an abundance of classical and historical allusions.⁷¹ His many speeches and articles in medical journals bear witness to his wit and common sense.⁷²

Because of his contributions to medicine and to the welfare of mankind, Osler was created a baronet⁷³ of the British Empire in 1911. During the war, Osler was appointed to the

68. Two Oxford Friends, "Sir William Osler and Oxford," The Canadian Medical Association Journal - Sir William Osler Memorial Number 10 (July 1920): 67.

69. Malloch, p. 62.

70. Reid, p. 181.

71. William S. Thayer, M.D., "Osler," The Bulletin, Med. Chir. Fac., Maryland 1920, xii 78.

72. Charles G. Roland, M.D., "William Osler and Medical Journalism," The Journal of the American Medical Association 200 (May 1967): 119.

73. Reid, p. 33.

War Emergency Committee of the British Medical Association and made an honorary colonel.⁷⁴ In addition to his other duties, he was a consulting physician to several military hospitals, including one opened for the Canadian troops.

Sir William Osler realized that the greatest danger to the soldiers in France was not bullets but disease and he urged in a letter to the Times⁷⁵ that soldiers be immunized against typhoid fever.

In August 1917, Osler's son, Revere, died in action and thereafter his life continued only as an escape from his personal tragedy.⁷⁶ Sir William Osler died on December 29, 1919 in Oxford, England at the age of seventy.⁷⁸

74. MacNalty, p. 42.

75. Cushing, p. 1143.

76. Barbour, p. 27.

77. Ball, p. 85.

78. "Obituary: Sir William Osler, Bart., M.D., LL.D., ETC.," The Canadian Practitioner and Review 45 (February 1920): 58. Cushing, p. 1366. Cushing noted that Osler kept his scientific curiosity and good humour to the end and quotes Sir William's comments to Dr. Archibald T. Malloch, his physician. "I've been watching this case for two months and I'm sorry I shall not see the post-mortem."

CHAPTER II

OSLER, THE EDUCATOR

Although Osler's contribution to medical knowledge, as a clinician, is significant, he is primarily remembered today as an educator. His innovations in medical education completely changed the method of instruction in North America, prevalent before his reforms.

Osler's ideas originated at the German research institutes and universities. During the latter part of the nineteenth century, German universities followed the ideas of Wilhem von Humboldt, a leading figure in changing the medieval and postmedieval concept of the university. Von Humboldt was Prussia's Minister of Education and instrumental in the founding of the University of Berlin, in 1810. His beliefs concerning higher education came to fruition at that university.¹

After the authoritarian structure of the Middle Ages was dissolved by the Reformation and the rise of the middle classes, German universities were the "first to raise the banner of research as a central mission - if not the central mission - of the university."² Professional appointments were

1. Friedrich Paulsen, German Education: Past and Present, (London: T. Fisher Unwin, 1908), p. 184.

2. James A. Perkins, The University in Transition, (Princeton, New Jersey: Princeton University Press, 1966), p. 11.

based on scientific research, while teaching ability was given only secondary consideration.³ This attitude was the result of Humboldt's philosophy, who held, that "universities should treat knowledge as something that was in flux, is something that had continually to be refined."⁴ The main objective of the university was the acquisition of a knowledge.

But the acquisition of knowledge through the exercise of reason is only part of the story. Knowledge acquired must be transmitted, or it dies. Knowledge acquired and transmitted must be used, or it becomes sterile and inert.⁵

Accordingly, the new objective of the academic world became "(not only the) acquisition of encyclopaedic learning or of dogmatic propositions, but the gaining of an independent grasp of scientific principles,.... (and) original scientific research."⁶

The new approach at German universities was based

3. Paulsen, p. 185.

4. Frederic Lilje, The Abuse of Learning: The Failure of the German University, (New York: The Macmillan Company, 1948). p. 17.

5. Perkins, p. 7.

6. Paulsen, p. 186.

on the

revolutionary belief that truth is "up for grabs" and can only be arrived at through investigation and experimentation. To them, the university should create as well as keep knowledge, which is to say that the institution is at once a teaching and research institution.

The search for truth was based on Kant's philosophy, who argued that "the spirit of free rational inquiry.... constituted the very essence of a university."⁸

Following these principles, teaching methods at the universities became different from those at primary and secondary schools. "Seminars" were introduced, where senior students, in small advanced classes, did original work under the guidance of the professor.⁹

While German universities were flourishing and their research oriented faculty members and students brought forth great scientific advancements,¹⁰ the pattern in Great Britain

7. Roger P. Magnuson, *Personal Notes on Modern Universities*. Faculty of Education, McGill University, Montreal, June 1978, p. 1.

8. Lilge, p. 13.

9. Paulsen, p. 188.

10. Magnuson, p. 3.

was different. Oxford and Cambridge, the leading universities, had a decentralized and undergraduate oriented environment, not very hospitable to research and graduate study.¹¹ British universities were lacking the "idea of science, of systematic knowledge."¹² This want was realized by some British educators, who felt that British universities are not even using "the word science in its strict sense."¹³

According to Matthew Arnold, Oxford and Cambridge were only "haut lycées,"¹⁴ and

for mastership or doctorship (these universities had) either no examination at all, or an examination which is a mere form; they have consequently no instruction directed to these grades; no real university instruction, therefore, at all.¹⁵

11. Perkins, p. 13.

12. Matthew Arnold, Higher Schools and Universities in Germany, (London: Macmillan and Co., 1874) p. 228.

13. Matthew Arnold, Schools and Universities on the Continent, (Ann Arbor: The University of Michigan Press, 1964), p. 311.

14. Matthew Arnold, Higher Schools and Universities in Germany, p. 233.

15. Ibid., p. 230.

This was due to "a want of scientific intellect in all departments"¹⁶ as British universities did not have the "extraordinary love of learning to be found in German universities,.... (with their) untiring energy in research."¹⁷

After the war of 1870, the British realized that the German military and political victory was partly due to the Prussian schoolmaster.¹⁸ As customary in Britain when facing an insurmountable problem, the Devonshire Royal Commission was appointed with great alacrity, to study problems of scientific instruction and the advancement of science. The Commission urged "state subsidy of research, state funds for the construction of laboratories, more and improved education in the sciences."¹⁹

During this period many North American medical students have visited the German universities and realized the importance of the new attitude towards research and science. Osler was one of the many foreign students impressed with the German approach to science:

16. Ibid.

17. Cloudesley Brereton, Studies in Foreign Education: With Special Reference to English Problems, (Boston: Houghton Mifflin Company, 1913), p. 287.

18. Magnuson, p. 5.

19. George Haines, IV, German Influence Upon English Education and Science, 1800-1866, (New London, Connecticut: Stonington Publishing Company, Inc., 1957), p. 59.

I should say that the characteristic which stands out in bold relief in German scientific life is the paramount importance of knowledge for its own sake. To know certain things thoroughly and to contribute to an increase in our knowledge of them seems to satisfy the ambition of many of the best minds.²⁰

Other North American students also realized

that every German scholar is expected.... to think for himself.... know all that has been learned up to his day and.... learn something not yet known, and thus to add to the sum of human knowledge.²¹

The German approach appealed to North American students, who had their firsthand experience at German universities and when Johns Hopkins University was founded, Daniel Coit Gilman, the first President, also emulated the German example expecting "every professor and at least the ablest students" to be scientifically productive.²² Gilman felt the aim of the

20. Thomas Neville Bonner, American Doctors and German Universities: A Chapter in International Intellectual Relations: 1870-1914, (Lincoln, University of Nebraska Press, 1963), p. 66. Bonner is quoting Osler.

21. Charles Franklin Thwing, The American and the German University: One Hundred Years of History, (New York: The Macmillan Company, 1928), p. 58.

22. Abraham Flexner, Daniel Coit Gilman: Creator of the American Type of University, (New York: Harcourt, Brace and Company, 1946), p. 64.

university should be "the encouragement of research.... and the advancement of individual scholars."²³

American educators, however, did not follow slavishly the German example. They

criticized the forcing of original work and experimentation at the undergraduate level.... Osler.... censured the neglect of teaching in the German university for the more seductive pursuit of the 'bauble reputation.'²⁴

Although the German system had its imperfections, it led, nevertheless, to a new focus at American universities, with objectives centered around "professional training, education of the whole man, and research."²⁵ These ideas guided Osler to the introduction of his own system of teaching, based on careful observation of the patients.

23. Richard Hofstadter and Walter P. Metzger, The Development of Academic Freedom In The United States, (New York: Columbia University Press, 1957), p. 377. Hofstadter and Metzger are quoting Gilman.

24. Bonner, p. 52.

25. Karl Jaspers, The Idea of the University, (London: Peter Owen, 1959), p. 53.

The whole art of medicine is in observation The student must first be taught to observe. . . . The seeing eye and the feeling finger are products of long training. How to see and what to see, how to touch and what to touch constitute the main lesson.²⁶

The natural, or we may call it the Oslerian method of teaching medicine, was described by Osler himself in 1903. "In the natural method of teaching the student begins with the patient, continues with the patient, and ends his studies with the patient using books and lectures as tools, as a means to an end. . . ." ²⁷

In a tribute entitled "Osler, The Teacher," William Sydney Thayer, a Professor of Clinical Medicine at Johns Hopkins University in Baltimore told the students how to emulate Osler, "The Chief":

Medicine is learned by the bedside and not in the class-room. Let not your conceptions of the manifestations of disease come from words heard in the lecture room or read from the book. . . . Live in the ward.²⁸

26. William Osler, "The Natural Method of Teaching The Subject of Medicine," The Journal of the American Medical Association 36 (June 1901: 1674).

27. Ibid., p. 1673.

28. William Sydney Thayer, M.D., "Osler, the Teacher," Johns Hopkins Hospital Bulletin 30 (1913): pp. 199-200.

Osler considered this new method of teaching as his most important innovation in medical education: "I desire no other epitaph.... than the statement that I taught medical students in the wards, as I regard this as by far the most useful and important work I have been called upon to do."²⁹

Johns Hopkins was an ideal place to put Osler's ideas into practice. When Osler arrived, Baltimore already had five medical schools.³⁰ The best of these schools granted diplomas, with the right to practice, after two years of instruction.³¹ Osler demanded tougher standards. "It makes one's blood boil to think there are sent out year by year scores of men called doctors, who have never attended a case of labor, and who are utterly ignorant of the ordinary everyday diseases which they may be called upon to treat, men who have never seen the inside of a hospital ward."³² Most medical schools

29. William Osler, "The Fixed Period," in Aequanimitas and Other Papers That Have Stood the Test of Time, Edited by Paul Dudley White, M.D., (New York: W. W. Norton and Company, 1963), p. 203.

30. Harold J. Abrahams, The Extinct Medical Schools of Baltimore, Maryland, (Baltimore, Maryland: Maryland Historical Society, 1969).

31. Edward N. Brush, "Osler's Influence On Other Medical Schools in Baltimore," Johns Hopkins Hospital Bulletin 30 (July 1919): 208.

32. William Osler, M.D., "The Licence to Practise," Maryland Medical Journal 21 (1889): 61.

in Baltimore admitted students without their having graduated
³³ from high school. At Johns Hopkins, Osler insisted that
 students should have "A baccalaureate degree, or its equivalent,
 with emphasis on preliminary education in the sciences and
³⁴ modern languages."

In addition to tightening admission standards, Osler
³⁵ introduced a four year curriculum,

the first two of which are devoted to
 anatomy, physiology, pharmacology,
 physiological chemistry and pathology,
 and the third and fourth to the subjects
 of medicine, surgery, obstetrics and
 the specialities.³⁶

In the third year, the juniors in their "Observation
 Class" examined three or four patients in the out-patient
 department or in the wards, with the students asking questions
 and the professor or his assistants leading them to the correct

33. Brush, p. 208.

34. James Bordley, III, M.D., and A. McGehee Harvey, M.D.,
Two Centuries of American Medicine: 1776-1976, Philadelphia:
 W. B. Saunders Company, 1976.

35. Emile Holman, "Osler and Halsted, a Contrast in
 Personalities," in John P. McGovern, M.D., and Chester R. Burns,
 M.D. (eds.), Humanism in Medicine, (Springfield, Illinois:
 Charles C. Thomas, 1973), p. 23.

36. William Osler, "The Natural Method of Teaching the
 Subject of Medicine," p. 1673.

answers. This routine was accompanied by bi-weekly training in the use of the stethoscope and the microscopic examination of various laboratory samples obtained from patients. History-taking, under the supervision of instructors was also part of the studies of this school year.³⁷

During the fourth year, the students served at the various clinical departments for two months, in rotation, with six patients assigned to each student. The "clinical clerks", as Osler called them, were following their patients' progress on a daily basis taking blood and urine samples, examining them, and also keeping the medical records. Under the supervision of Osler's clinical assistants, the seniors had to establish the diagnosis and the appropriate course of treatment for the patients assigned to them. In addition, a weekly clinic was held, with all students present, where the "general experience of the week" was discussed. Diseases not frequently found in the hospital were studied in the "Recitation Class" with different conditions studied each week.³⁸

Osler revised the post-graduate instruction by establishing "a large clinic with a well organized series of assistants and house-physicians and with proper laboratories

37. Ibid., pp. 1674-75.

38. Ibid., pp. 1676-78.

in which to work at the intricate problems that confront
 internal medicine."³⁹ Following the methods of German clinics,
 long-term residencies took the place of the short-term intern-
 ships. This system permitted the residents to concentrate on
 their specialty and therefore they stayed at Johns Hopkins
 Hospital for a longer period of time.⁴⁰ The residents were
 under the supervision of the house physician, who was not only
 a doctor but also a teacher, and an administrator. During
 their last two years of studies, the medical students were
 guided by the residents.⁴¹

In spite of his insistence on high standards, Osler did not approve of examinations. Instead, he proposed a rational method of continuing assessment and thought that formal tests should be an extension of the daily evaluation. Osler felt that going through final examinations was like going through a trial and he also condemned the tests because they interfered with the student's pursuit of knowledge for the sake of knowledge.

39. Response by Dr. Osler. Dinner to Dr. William Osler Previous To His Departure for England To Assume The Regius Professorship of Medicine in the University of Oxford, Waldorf Astoria, May 2, 1905. Privately printed, 1905, p. 31.

40. William Osler, "On the Hospital Unit in University Work," Northumberland and Durham Medical Journal 18 (1911): 183.

41. William Osler, "The Natural Method of Teaching the Subject of Medicine," p. 1676.

Osler considered examinations unfair: the candidate was regarded as an equal of the professor and was expected to possess as much knowledge as the teacher. In Osler's opinion the students needed more time for quiet study. He was in favour of fewer classes,⁴² fewer lectures.

Osler suggested that students be required to produce the results of their research work and be judged on the quality of their lab work. He believed in the formation of small student-teacher discussion groups and was the first to use the word⁴³ "seminar" to describe them.

While treating his patients and teaching his students Osler was concerned with the structural changes wrought by disease and by their clinical manifestations. If the patient died, Osler was always present at the post-mortem. Afterwards, he correlated the patient's history and symptoms with the results of the post-mortem examination and used the material in⁴⁴ explaining the case to his students.

42. William Osler, M.D., "Examinations, Examiners and Examinees," The British Medical Journal 12 (October 1913): 947.

43. Sir Douglas Hubble, M.D., "William Osler and Medical Education," Journal of the Royal College of Physicians of London 9 (April 1975): 274.

44. Joseph H. Pratt, A Member of the Class of 1898. A Year With Osler 1896-1897: Notes Taken at his Clinics in the Johns Hopkins, (Baltimore: Johns Hopkins Press, 1949), p. xiv.

Osler realized that it was easy to tell the students to do things, but they were unlikely to do them if the professor did not set a good example.⁴⁵ Therefore Osler showed his students how to be meticulous observers. He stressed that his students should "use their eyes, ears and sensitive fingers" while examining a patient and the "Chief" guided them in developing an understanding mind to interpret the results of their observations.⁴⁶

Osler was thorough and would not make snap diagnoses.⁴⁷ While discussing a patient's problem with the students, Osler often suggested that a reference book be brought to him and would then review the applicable sections. This way he impressed upon his students that they must not be dependent on a core of knowledge absorbed during their studies, but be ready and willing to use various other sources for reference.⁴⁸ In keeping with his educational theories, Osler was not satisfied with

45. W.G. MacCallum, "A Student's Impression of Osler," Canadian Medical Association Journal Memorial Number Sir William Osler (July 1920): 49.

46. Lewellys E. Barker, M.D., "Osler in America: With Special Reference To His Baltimore Period," The Canadian Medical Association Journal 33 (October 1953): 355.

47. Neil McIntyre, "Osler and Medical Education", Oslerian Anniversary, (London: The Osler Club of London, 1976), p. 19.

48. Ibid.

students remembering the medical texts, but insisted that they apply their knowledge to their work in the wards.

Osler was adamant that out-patient and ward instruction should provide for active participation by the students. He first developed his theory while teaching at McGill, where he had to give four lectures a week. He abhorred the lectures, as the students did not participate in the educational process. For Osler, education was a matter of learning, not of teaching and it was logical that the keystone of his approach should be the direct involvement of students in clinical activities.

Osler was keenly aware that the knowledge of morbid anatomy was a must for the interpretation of clinical problems. In order to make the subject more interesting, he introduced many vivid pictorial references while explaining pathological changes at the bedside of the patient. Osler was also conscious of the students' problem in absorbing the avalanche of information thrust upon them. In order to create a more

49. William Osler, "The Medical Clinic: A Retrospect and a Forecast," The British Medical Journal 1 (January 1914): 1.

50. William Osler, "The Natural Method of Teaching The Subject of Medicine," p. 1674.

51. Thomas McCrae, M.D., "The Influence of Pathology On The Clinical Medicine of William Osler," Bulletin of the International Association of Medical Museums and Journal of Technical Methods Reminiscences (January 1926): 43.

informal atmosphere, he regularly invited his students to his home and would go over cases seen during the week. He took some books from his shelves, and read aloud the first description of the disease. The instruction was accompanied by sausages and beer in order to create a friendly atmosphere. ⁵²

Osler frequently quoted Thomas Fuller's epigram:

"History not only maketh things past present, but enableth one to make a rational conjecture of things to come." He always brought medical history into clinical discussions. When a student was discussing the problem of a patient, Osler would ask at the end of the presentation: "Who was Graves?" Once the student admitted his ignorance, he was told to bring along the original article to the following discussion and give a ten-minute talk on the author. ⁵³ In addition, Osler insisted that his students should refer to the main body of medical literature. They were expected to go to the Index Catalogue of the Surgeon General's Library and then to the original reference sources. ⁵⁴

52. William Osler, M.D., F.R.S., "A Note on the Teaching of History of Medicine," The British Medical Journal 2 (July 1902): 47.

53. Walter R. Steiner, M.D., Presidential Address "Reminiscences of Sir William Osler As My Teacher And of My Hospital Experiences Under Him At Johns Hopkins," Transactions of the American Clinical and Climatological Association 50 (1935): lvi.

54. Ibid., p. lvii.

Osler felt that by returning to the original descriptions of the disease, the clinical pictures were etched more deeply on the memory of the student as the student was provided with a historical, social and geographical setting for his own experience. The student was not given a story of uninterrupted progress in the art and science of medicine, but of advance, stagnation and sometimes even recession.⁵⁵

Osler traced for his students the development of medical ideas in order to improve the care of the patients. He explained the lessons to be learned from the medical history of the condition as applicable to the prevention of the disease. Osler taught his students that the great masters of medicine "though dead are yet speaking."⁵⁶

Osler was strongly influenced by Greek thought. In his writings he mentioned several times that he prefers to be wrong with Plato than right with anybody else. Osler's interest in Plato led to a great honour, the Presidency of the Classical Association in London. In 1919, he delivered the Presidential address. His subject was "The Old Humanities and the New Science." This speech outlined Osler's general outlook on

55. E.H. Bensley, M.D., "Osler Being Dead Yet Speaketh," McGill Medical Journal 30 (December*1960): 166.

56. Ibid.

life and emphasized that the truly educated man needs both
 57
 humanities and science.

Naturally most of Osler's essays related to his daily work
 in medicine. He felt that the history of medicine was most
 important when teaching clinical practice to his students.
 Acquaintance with the biographies of great physicians was
 considered vital by Osler and he concentrated his literary
 efforts in this domaine. 58 He has recommended the study of the
 life of these men not only as physicians, but as strong
 personalities who conquered great obstacles by their sheer
 59
 determination.

Osler became successful in his field by living an ordered
 and well-disciplined life, believing firmly that a doctor's
 motto should be "work" and he lived up to his ideal. He also
 recommended a life of work to his students and counselled a
 combination of work, exercise and cheerful disposition. He
 60
 strongly believed in the corpus sanum, coupled with the mens sana.

57. Rufus Cole, M.D., "Dr. Osler: Scientist and Teacher,"
Archives of Internal Medicine 84 (July 1949): 56.

58. Charles W. Burr, "Sir William Osler As A Man Of Letters,"
The American Journal of Medical Sciences 159 (May 1920): 628.

59. Ibid.

60. William Osler, "The Master Word in Medicine," The Montreal
 Journal 32 (November 1903): 54.

Besides working as a physician and teacher, Osler found time to write his textbook, the Principles and Practice of ⁶¹ Medicine, published in 1892. This work rapidly became recognized as their standard textbook by Canadian and American universities. More than 23,000 copies of the first edition were sold. ⁶² It was translated into French, German, Japanese, Chinese and Spanish and its influence was world-wide. ⁶³ Osler's work was published ten times during his lifetime and eight times after his death. ⁶⁴ The last edition was published in 1947.

Osler's magnum opus is an unusual medical textbook because of its many literary allusions. He succeeded in writing a scientific treatise in a literary style. Osler's graphic descriptions alternate with historical background and make this work most readable, compared to the customary dry manuals foisted upon science students. ⁶⁵ Osler introduced a new system for

61. J. McMichael, "Osler: The Textbook, and Education in Medicine," The Canadian Medical Association Journal 58 (January 1948): 85.

62. Barker, p. 357.

63. Kenneth A. MacKenzie, M.D., "Sir William Osler (1849-1919): A Great Canadian," Nova Scotia Medical Bulletin 29 (1950): 3.

64. William Osler, Principles and Practice of Medicine: Designed For The Use of Practitioners and Students of Medicine, Edited by H. A. Christian, (New York: Appleton Century, 1947).

65. McMichael, p. 85.

describing diseases. He began with a definition of the disease, followed by historical note. Then came a detailed discussion concerning its etiology, transmission (in case of infectious diseases), morbid anatomy, symptoms, diagnosis, prognosis, prophylaxis and treatment of the condition.

Coming near the end of the morphological era in medicine and at the dawn of the physiological era Osler's textbook was firmly based on morbid anatomy. It reflects its author's extensive experience in the autopsy room. The historical sections reflect Osler's interest and orientation. 66

Osler's therapeutic nihilism came to the fore in the textbook and it represented clinical wisdom, since few remedies of his time had any value.

Osler's textbook was instrumental in obtaining private funds for medical research. This book led one of the advisors of the Rockefellers to realize the limitations of medical knowledge at the turn of the century. Eventually the Rockefellers were induced to endow research centres and support medicine. 67

66. A. McGehee Harvey and Victor A. McKusick, Osler's Textbook Revisited, (New York: Appleton-Century-Crofts, 1967), p. 7.

67. William B. Bean, M.D., "Osler, the Legend, the Man and the Influence," Canadian Medical Association Journal 95, (November 1966): 1036.

This contribution of private wealth to the public good changed the outlook of the leaders of American industry. They realized their obligation toward the community and soon it became the "in" thing for U.S. millionaires to support research, establish hospitals and offer generous donations for the benefit of health projects. This, of course, served to preserve their illustrious names for generations to come. Thus Osler was instrumental in starting a new trend amongst the barons of industry of America.

Unity, order, clarity of description and ease of diction are characteristic of Osler's textbook. He was a master of his subject, since he had made the nature of disease his business. Osler relays the information in an easy style, without the ambiguous phraseology typical of medical books. ⁶⁸ Osler's textbook does not contain bibliographic references. Contributions to various aspects of clinical knowledge are mentioned, although he usually does not provide footnotes or bibliography as customary today.

Osler's influence was world-wide as his ideas and accomplishments became known through the 1,200 articles he wrote. ⁶⁹

68. Edward N. Brush, "Osler's Literary Style," Johns Hopkins Hospital Bulletin 30 (July 1919): 217.

69. Benjamin H. Robbins, M.D., and Amos Christie, M.D., "Sir William Osler: The Pediatrician," American Journal of Diseases of Children 106 (December 1963): 124.

His journalistic activities were a manifestation of his idea that the educational process must continue even after the student completed his formal studies.

Osler's first publication in a medical periodical was a series of case reports in the Canadian Medical and Surgical Journal. He was only twenty-three years at the time. Through-⁷⁰out his stay at McGill he published several articles. In 1884, Osler participated in an art form typical of the late nineteenth century. "Letters From Foreign Places" were a series of reports sent by Osler from his voyage to Europe to the Canadian Medical and Surgical Journal about the medical aspects of his trip to Europe. In 1880, Osler edited the Clinical and Pathological Reports published by the medical staff of the Montreal General Hospital. These reviews were the first ever issued by a Canadian hospital.

Osler's journalistic activities influenced his move from Montreal to Philadelphia. Cushing states that the offer of a post on the teaching staff of the University of Pennsylvania came to Osler because his articles had made him well known in the medical world.^{71.} Soon after his arrival in Philadelphia in

70. A.D. Blackader, "Osler's Montreal Days," The Canadian Medical Association Journal Sir William Osler Memorial Number (July 1920): 33.

71. Harvey Cushing, The Life of Sir William Osler, (London: Oxford University Press, 1940), p. 220.

1885, Osler was considered the chief editorial writer for the Medical News, a journal that published the proceedings of the most important local medical societies on the continent.⁷²

In 1886, he wrote at least forty-nine editorials for the Medical News in addition to book reviews, notes and letters to the editor. At the same time, Osler was one of the collaborating editors of another publication, entitled International Clinics,⁷³ a post which he held for seventeen years.

While in Baltimore, most of Osler's writing time was devoted to his Principles and Practice of Medicine although he published many scientific papers as well as historical essays. It was at Osler's suggestion that the periodical Reports of the Johns Hopkins Hospital was founded. The Reports were suitable for the publication of extremely long articles that would not have been accepted by most medical journals. Later the name of the journal was changed to the Johns Hopkins Hospital Bulletin and it played an important role in bringing the activities of the hospital before the world.⁷⁴

Once in England, Osler kept up his contributions to medical

72. Henry W. Cattell, M.D., "Osler, The Medical Editor," Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 91.

73. Ibid, p. 92.

74. Otho F. Ball, M.D., "Sir William Osler," The Modern Hospital 75 (November 1950): 85.

journals. The idea of publishing a Quarterly Journal of
Medicine⁷⁵ began in the last years of the nineteenth century. However, one of its proponents died, and nothing further was done until Osler's arrival in Oxford in 1904. At that time, Osler met with others who were interested in the journal. It⁷⁶ was Osler's energy and enthusiasm that overcame all obstacles. He also revealed the very best instincts of a medical editor by proposing, during preliminary discussions, that an association be formed somewhat along the lines of the Association of American Physicians, to unite the physicians of Great Britain and Ireland: Not only was the association desirable in itself, but its members automatically provided a guaranteed circulation for the Quarterly Journal of Medicine.

A board of editors was established for the journal and Osler became its Chief Editor. The editors of the Quarterly Journal of Medicine always read each paper that was submitted, often rejected articles or made drastic alterations. Osler's method of handling rejections and acceptances for the journal was typical of his personality.⁷⁷ When accepting a manuscript

75. Robert Hutchison, "William Osler," Quarterly Journal of Medicine 18 (October 1949): 276.

76. Ibid.

77. Charles G. Roland, M.D., "William Osler and Medical Journalism," The Journal of the American Medical Association 200 (May 1967): 119.

he acknowledged it with a curt postcard, but when he was forced to reject a paper, he did so with a long and charming letter which left its recipient almost grateful not to have his paper published in the journal.⁷⁸

Osler gave his assistance to over twenty medical journals by helping the fledgling publications financially and also writing at least one article for the first volume of each journal.

Osler advised his students to cultivate a taste for literature and art early in life. He felt that hard working medical students should have an interest besides their studies and considered books a diversion easily accessible to them. Osler suggested that medical students should read a half an hour before bed time and get a general education in addition to their professional one.⁷⁹

Osler was a great believer in the continuing education of doctors and felt that medical history is a worthy subject of study by practicing physicians. In order to stimulate the interest of his colleagues, Osler encouraged them to become bibliophiles. The love of books came naturally to Osler.

78. Ibid.

79. William Osler, "The Master-Word in Medicine," pp. 778-779.

He was a "book collector" in the special sense of that word⁸⁰ and an avid searcher for first editions of medical books and bibliographic rarities and similar treasures. While Osler was anxious to acquire books treasured by bibliophiles, he did not hold on to the rare and interesting volumes for very long. After owning them for a short time he donated the books to various libraries which he had been associated with. McGill, The College of Physicians in Philadelphia and Johns Hopkins have repeatedly received valuable additions for their libraries.

Medical libraries are indispensable in professional education. Osler was instrumental in improving medical libraries at the institutions he was affiliated with. While Regius Professor in Oxford, Osler was one of the Radcliffe Trustees. In this position Osler was influential in establishing the acquisition policy of the Radcliffe Library⁸¹ where most of the modern scientific books of the University were kept. Perhaps Sir William's greatest interest at Oxford, outside of his medical work, lay in the Bodleian Library. He was one of the eight ex-officio curators.⁸² As a curator he received a copy

80. Thomas R. Boggs, "Osler As A Bibliophile," Johns Hopkins Hospital Bulletin 30 (July 1919): 216.

81. Archibald Malloch, "Sir William Osler At Oxford," The Canadian Medical Association Journal Sir William Osler Memorial Number 10 (July 1920): 53.

82. Ibid., p. 57.

of practically every book printed. He would call these "the delicacies of the Press" and kept many copies for his own library. Osler felt that buildings and books do not make a library. He suggested that in conjunction with every library, there should be a group of instructors in the art of reading, who as a labour of love, teach the students to read. If this was the dream of an idealist, it was also the conviction of a superb university teacher, who realized that students, concentrating on their scientific text, do not get the full picture of the world around them.

Osler not only educated medical students, but also the general public. His work as a propagandist of public health measures was so far reaching that many considered it his greatest service to his generation. In October 1909, Osler delivered what Cushing calls "an important and scholarly address on an ugly subject," namely syphilis. In his Schorstein lecture, Osler summarized the history of syphilis and referred to the fact that a few months earlier, he was fortunate enough to pick up one of the first Italian accounts of syphilis - the Libellus de Epidemia by Nicolaus Leonicensis,

83. Hubble, p. 274.

84. Huntington Williams, M.D., "Osler and Welch: Founders of Modern American Public Health," Virginia Medical Monthly 80 (June 1953): 13.

85. Cushing, p. 877.

published at the end of the fifteenth century. ⁸⁶ Osler called prostitution "the blackest blot in our civilization which exacts a ghastly toll of suffering and a sacrifice of thousands of lives annually."⁸⁷

He urged that venereal disease be put in the same category as other acute infections endangering the public and suggested that a special police force of men and women was urgently required to clear the streets and bars from flagrant whoredom. ⁸⁸ Osler then pleaded for sex education of the young.

In 1917, Osler gave a speech in London entitled "The ⁸⁹ Anti-Venereal Campaign." He spoke of the most formidable enemy of the human race "an enemy entrenched behind the strongest of human passions and the deepest of social prejudices."⁹⁰ Nevertheless his campaign was not very successful among the Allied soldiers during World War I.

Osler's struggle against typhoid fever started in 1896.

86. W.R. Bett, Osler: The Man And The Legend, (London: William Heinemann Medical Books Ltd., 1959), p. 45.

87. William Osler, "Syphilis and Aneurysm," The Schorstein Lecture, British Medical Journal 2 (1909): 1512.

88. Bett, p. 46

89. William Osler, "The Anti-Venereal Campaign," Transactions of the Medical Society of London 40 (1917): 290-315.

90. Bett, p. 47.

In a forceful speech, he outlined the measures to be taken by every community to eliminate this scourge.

Of no disease is the history better known; the measures for its prevention are everywhere recognized; the incidence of its occurrence is an unfailing index of the sanitary intelligence of a community. With good drainage, pure water and pure milk, typhoid fever goes the way of typhus and cholera. The great sanitary triumphs of the century have been in reducing to a minimum the mortality from this disease in the great centres of population in Europe.⁹¹

The war years brought renewed efforts on Osler's part to fight this disease. He wrote passionate letters to the Times of London, recommending the immunization of every soldier. "In war the microbe kills more than the bullet."⁹² He also lectured in army camps on this problem. But a strong anti-vaccination campaign developed among soldiers and the general public.⁹³ Nevertheless, Osler succeeded in having 95% of the Allied soldiers vaccinated against this disease.⁹⁴

91. William Osler, "The Study of the Fevers of the South," Journal of the American Medical Association 26 (1896): 1002.

92. Cushing, p. 1113.

93. Ibid., p. 1143.

94. Ibid., p. 1158.

Osler also advocated strong measures to eradicate tuberculosis. As a result of his campaign, the Maryland legislature passed a law requiring the registration of all tuberculosis cases. Osler's efforts were instrumental in obtaining a substantial donation to build a tuberculosis clinic at Johns Hopkins. ⁹⁵

No educator can accomplish his objectives without a personality that inspires his students. Osler imbued his patients with confidence, courage and hope, instilled enthusiasm in his students and forged a personal link with every one of them. ⁹⁶

The life of Maude Abbott, one of the first female doctors in Canada, illustrates Osler's influence on everybody who came in contact with him. Being one of the most prolific contributors of pathological specimens to the McGill museum, Osler aroused in Maude Abbott an enthusiasm for the Museum and a life-long interest in congenital heart disease, a subject on which she became an internationally recognized authority. ⁹⁷

95. Henry Barton Jacobs, "Osler As A Citizen And His Relations To The Tuberculosis Crusade in Maryland," Johns Hopkins Hospital Bulletin 30 (July 1919): 207-208.

96. Charles P. Emerson, "Reminiscences of Sir William Osler," Bulletin of the International Association of Medical Museums and Journal of Technical Methods, William Osler, Appreciations and Reminiscences (January 1926): 200.

97. Bett, p. 51.

Osler was well liked for his permanent boyishness, practical jokes and good humour: in some ways he refused to be a grown up. Nevertheless, people noted that although he was full of fun, he always retained an innate dignity: no one ever took liberties with him.⁹⁸ He never spoke ill of anyone and did not tolerate it from anyone else. Osler sincerely liked human beings and was prepared to do anything to help others, generously giving his time and money.⁹⁹ Although Osler often said that his "only talent was industry," his real power over others was that of inspiration. Osler radiated cheerfulness, confidence and tenderness.¹⁰⁰

Osler's students considered him a unique teacher, a man of sparkling humour and friendliness, who sustained an affectionate, personal interest in each student. He had the rare capacity of bringing confidence to the shy and

98. Hobart Amory Hare, M.D., "William Osler As A Teacher And Clinician In Philadelphia, Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1927): 216.

99. Bett, p. 51.

100. W.W. Keen, "A Tribute to Sir William Osler," Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1927): 248.

enthusiasm to those who lacked interest. Osler's
101
personality permeated the wards and the lecture hall, changing
the previously stereotyped method of teaching into something
essentially alive and refreshingly practical. Osler's most
important assets as a human being were the undefinable
qualities of charm and personality, which few could resist.
102
To-day we call it charisma.

101. J.M.T. Finney, M.D., "A Personal Appreciation of
Sir William Osler," Bulletin of the International Association
of Medical Museums and Journal of Technical Methods, Sir William
Osler, Memorial Number, Appreciations and Reminiscences
(January 1926): 280-81

102. Personal Communication. Dr. Edward Horton Bensley,
Emeritus Professor of Medicine, McGill University, Montreal,
November 22, 1977.

CHAPTER III
MEDICAL CONTROVERSY - FULL-TIME
CLINICAL TEACHING

Colleagues and commentators generally considered Sir William Osler's concept of taking his students out of the lecture halls and having them acquire knowledge through work in the wards as his most significant contribution to medical education. Osler's views about full-time clinical professorship, however, were controversial during his lifetime and until this day there is no definitive agreement about the correctness of Osler's views. While during the past half century the idea of whole-time clinical professorship has gained general acceptance, there are still doubts about its merits.

Before examining Osler's point of view in detail and analyzing the arguments that support his ideas, it is felt that whole-time clinical professorship should be properly defined. The best description of this system may be found in an article written by Hinsey.¹ Joseph C. Hinsey, Ph.D. was Director of the New York Hospital and Dean of Cornell Medical School and due

1. Joseph C. Hinsey, "Full-Time Clinical Faculty: An Interpretation of the Problem As It Concerns Medical School Administration," Journal of the American Medical Association 162 (September 1956): 17.

to his administrative functions, became well qualified to define this concept. According to Hinsey, full-time clinical faculty member may mean many things:

1. The professor could be an "absolute full-time faculty member." His main responsibility lies in teaching at the school and doing research at the hospital, affiliated with the university. This doctor will treat private patients only on the premises of the affiliated hospitals. The professor's total income is paid by the hospital and/or university. All payments by private patients must be handed over to the university but may be used to support medical education and research in the professor's field.

2. A professor would be considered a "geographic full-time faculty member" if he received a basic salary from the university, but is also allowed to keep the financial compensation received from his patients. Hinsey establishes two categories of geographic full-time professors:

a. "Geographic full-time member, unrestricted."

There is no limit on the income of this professor derived from his private patients.

- b. "Geographic full-time restricted," with a specific limit imposed by the university on the income of the professor. His income is limited by individual agreement with the university. The contract with the institution also delineates the time spent in the service of private patients and is strictly controlled by university authorities.²

A similar definition is offered by Richards³ who points out that the income of full-time clinical professors may be derived from three sources: the university, the affiliated hospital or private patients. A salary would be paid by the university in recognition of the professor's contribution to educational services in his capacity of teacher and supervisor of medical students, interns and residents. In addition, the professor may be allowed to charge his private patients and keep the fees received from them. This professor, nevertheless, would be geographically limited to the hospital i.e., he would not be allowed to have an office outside of the hospital or university.⁴

2. Ibid.

3. Victor Richards, "Full-Time Service Chiefs," in C. Wesley Eisele (ed.), The Medical Staff in the Modern Hospital, (New York: McGraw-Hill, 1963), p. 139.

4. Ibid.

The idea of full-time clinical professorship originated in Germany, in the second half of the nineteenth century. During the late 1860's and 1870's scores of American medical students travelled to Europe and studied at several German universities. The most popular ones were located at Berlin, Breslau and Strassburg. In addition, some American students worked in the laboratories of the most prominent German researchers, e.g. Mueller and Liebig.⁵

Students from the United States and Canada became acquainted with the full-time system at these German universities and research laboratories. Abraham Flexner, in his report on Medical Education in Europe, indicates that in the German university teachers were primarily professors, not doctors: "The professor of medicine or surgery is indeed a physician but from the standpoint of educational ideas, this is of secondary importance. He is first of all a university professor."⁶

4. Ibid., p.140.

5. John F. Seeley, "Full-Time Clinical Teaching In America," McGill Medical Journal 30 (1961): 13.

6. Abraham Flexner, Medical Education in Europe Bulletin No. 6, Carnegie Foundation for the Advancement of Teaching, (New York, D. B. Updike, The Merrymount Press, 1912) p.145.

It should be noted that professors at the German universities were appointed for life and had substantial fixed guaranteed salaries.

Hugo von Ziemsen was one of the first among the new type of professors. He was dissatisfied with the status quo, and therefore set up his own laboratory in Erlingen, Bavaria. Later, in Munich, he started his "Institute For Clinical Research" where, within the framework of a hospital, researchers and students worked side by side. Carl Ludwig, professor of physiology in Leipzig followed von Ziemsen's innovation with great interest. Ludwig was the first one to demand that in order to obtain more systematic clinical and research results, clinical instruction be raised to full "university status" i.e. whole-time basis. Ludwig advocated that professors be paid a salary that permits them to spend all their time on teaching and scientific research. Ludwig insisted that professors give up their lucrative private practice and be satisfied with salaries paid by the hospital and university.⁷

One of the first Americans to join Carl Ludwig was Franklin P. Mall who spent the years 1885-86 in Germany. He

7. Donald Fleming, William H. Welch and the Rise of Modern Medicine, (Boston: Little, Brown and Company, 1954), p.299.

went to Europe after graduating from the University of Chicago Medical School. In Germany, Mall found a "new world."⁸ He worked in Leipzig, in the laboratory of Wilhelm His, specializing in embryology, before joining the physiological laboratory of Carl Ludwig. William Henry Welch was another American student at Ludwig's laboratory. A few years later, Welch in his position of Professor of Pathology, was instrumental in obtaining an appointment for Mall at Johns Hopkins as Fellow in Pathology. After spending a few years as Professor of Anatomy at Chicago, Mall returned to Baltimore in 1883 and organized the Department of Anatomy at Hopkins and became the first Professor of Anatomy of the institution.⁹

While at Chicago, Mall became the first in North America actively promoting the idea of full-time professorship, as it was known in Germany: an arrangement forcing professors to spend all their time on teaching and research and not permitting them to engage at all in private consultations. By the time Mall returned to Johns Hopkins, the Trustees of the

8. Alan M. Chesney, M.D., The Johns Hopkins Hospital and The Johns Hopkins University School of Medicine -- A Chronicle: Early Years: 1867-1893, 3 vols. (Baltimore: The Johns Hopkins Press, 1943), 1:16.

9. Simon Flexner and James Henry Flexner, William Henry Welch and the Heroic Age of American Medicine, (New York, Viking Press, 1941), p. 226.

University already decided in favour of full-time professorships for the pre-clinical chairs (anatomy, physiology, pathology, pharmacology).

The first full-time posting at Johns Hopkins was offered to Dr. Matthew Hay, from the University of Aberdeen, who was considered for the Chair of Pharmacology. The appointment, however did not materialize: the documents drawn up by the Board of Trustees specifically stated that "Medical Professors who receive this salary will not be allowed (to) engage in private professional practice."¹⁰

Hay, however, insisted that he be allowed to see private patients. When Hay's condition of acceptance was brought before the Board of Trustees, they refused. The text of the refusal deserves to be quoted verbatim: "Medical education in the United States now suffers from the fact that the chairs are almost always filled by practitioners and consequently the scientific work of the Schools of Medicine has been less efficient than it should be. It is thought best

10. Chesney, 1:87-88

here to initiate our Medical School by appointing several teachers who shall not engage in practice,"¹¹

William Henry Welch was the first professor appointed full-time to Johns Hopkins, or as it was called in those days on a "University Basis." Welch agreed whole-heartedly with the Trustees that professors teaching the pre-clinical subjects should be appointed on a full-time basis. Welch was familiar with the German system of full-time professorship as he had visited Germany after his graduation and had worked in Ludwig's laboratory for nearly a year.

After his appointment in 1884 to Johns Hopkins, but before taking up his new post, Welch was given an opportunity to spend a year in Europe. He first hoped to study with Robert Koch in Germany. Although Koch received him most cordially, Welch was told that the laboratory belonged to the war department and was not intended for instruction. Koch informed Welch that in order to study with him, he would have to obtain permission from the Minister of War. Instead of following this procedure, Koch suggested that Welch go to Munich, where Wilhelm Frobenius was giving the first course ever offered in bacteriology. Welch, however, was not happy with Frobenius. He "had rather a narrow horizon. He had evidently taken down practically every

11. Ibid., p. 88.

word Koch had ever said: and he read them to us and made us do everything precisely as Koch had done it -- even to holding the test tube exactly as Koch had held it."¹²

While working with Frobenius, Welch helped Otto Bollinger in the pathological laboratory and observed autopsies. He was also active in the hygienic laboratories of Max von Pettenkofer and discovered how sanitary reform and purification of soil and water helped to eliminate typhoid fever.¹³ Then Welch joined Carl Ludwig's laboratory and later studied under another one of Koch's pupil's, Carl Fluegge, in Goettingen. While busy with his scientific work, Welch also familiarized himself with the German system of full-time clinical professorship and was impressed by this concept.

When in 1888 Osler was appointed Professor of Medicine at Johns Hopkins, full-time professorships for pre-clinical subjects were already solidly established at the hospital. Appointments of full-time professors for pre-clinical chairs met Osler's hearty approval, as he felt that pre-clinical subjects are primarily research and training oriented and therefore belong to the domain of whole-time professors.¹⁴

12. Simon Flexner, p.139.

13. Ibid.

14. Chesney, 1:103-104.

At Johns Hopkins the "form of organization was unique in America of that day."¹⁵ The chiefs of services received a substantial salary from the university; that permitted them to devote a large portion of their time and effort to their duties at the hospital. This would not have been possible had they not been on the payroll of the hospital.

The "heads of services" were assisted by residents, who, as their title implies, lived in the hospital and during the absence of the Chief, were fulfilling his duties. These young doctors had an excellent training: they were first assistant residents, and only after gaining several years of experience were they promoted to residents. By the time they left the hospital and took up positions elsewhere, the residents were well trained and became outstanding in their respective fields.¹⁶

The Johns Hopkins system was an important innovation in North American medicine as other schools did not have separate chiefs for each department but had their clinical

15. Ibid., 1:118.

16. Ibid., 1:161-163. Chesney is quoting Osler's report "In the matter of Resident Physicians and Interns."

services staffed by several physicians who alternated in looking after the various departments.¹⁷ Johns Hopkins' system was established principally on Osler's recommendation. "Osler must be given credit for the introduction of the so-called "residency system" at (the) Hopkins, using the term in the sense of a system which permits a physician to spend an indefinite number of years living in a hospital in order to complete his training in a given field of medicine."¹⁸

In a Canadian context, it should be noted, that Johns Hopkins Hospital's first resident was Dr. Henri A. Lafleur from Montreal, a native of Longueuil, Que. Although a French Canadian, Lafleur was Protestant and his father was a clergyman. Lafleur obtained his B.A. and M.D. at McGill, worked for a year and a half (in 1887-88) at the Montreal General Hospital, and became resident at Johns Hopkins in 1889, the year the hospital was opened.¹⁹

By 1888, the key appointments were all made. Welch selected Osler to be Professor of Medicine and Osler was ready to leave Philadelphia in order to join Johns Hopkins.²⁰

17. Ibid., 1:118.

18. Ibid., 1:162

19. Harvey Cushing, The Life of Sir William Osler, (London: Oxford University Press, 1940), p.315.

20. Ibid., p.297.

Another important post, that of Surgeon-In-Chief, was given to William S. Halsted. Halsted was a devoted admirer of Welch and was indebted to him for saving his career and professional life. Halsted was originally working at the Roosevelt Hospital in New York. In 1884, Halsted and his colleagues discovered cocaine as an anesthetizing agent for the eye. Halsted's work laid the foundation for the theory and use of local anesthesia. Unfortunately this came at a very high cost to Halsted. He and his assistants began to sniff cocaine through their nostrils and were fascinated to realize that with the use of cocaine their minds became clearer and clearer. They sensed no fatigue and had no desire or ability to sleep in spite of working through the night. The following morning they were ready for another day's work. Halsted and his assistants eventually became addicted to cocaine. After a few months, their thought processes slowed down and they became mentally unstable.²¹

In 1885 Halsted was sent to Butler Hospital in Providence, the leading institution for care of mental disorders. Although Halsted was written off by his peers, Welch invited Halsted to live with him in Baltimore and allowed him to work in his laboratory. Halsted recovered physically and mentally, was appointed Surgeon-In-Chief at Johns Hopkins in

21. Fleming, p. 87.

1890 and became a full professor in 1892.²²

It was Welch who brought Halsted back from living death at the mental hospital and helped him to re-establish himself. In addition, Welch was instrumental in obtaining Halsted's professional appointment. Halsted was overwhelmed by Welch's generosity and in his devotion felt morally obligated to support Welch's position some years later, when the question of full-time clinical professorship became the controversial issue of the day at Johns Hopkins.

Another chief of a department was Howard A. Kelly who was appointed Professor of Gynecology in 1889. Kelly joined Johns Hopkins on Osler's recommendation, as Osler knew him from his years in Philadelphia. Soon after beginning his practice, Kelly opened a small private hospital in a poorer section of Philadelphia. After his appointment to Johns Hopkins, Kelly started his own hospital in Baltimore. A substantial portion of Kelly's income came from this private hospital where the fees were relatively high.²³

22. Donald G. Bates and Edward H. Bensley, (eds.), "William Osler's, "The Inner History of the Johns Hopkins Hospital," Johns Hopkins Medical Journal 125 (October 1969): 189.

Wilder Penfield, "Halsted of Johns Hopkins," Journal of the American Medical Association 210 (1969): 2214. Dr. Wilder Penfield quotes Osler's diary to the effect that Halsted was taking morphia even after his appointment as Professor of Surgery.

23. Ibid., p. 191.

Although both Mall and Welch were in favour of full-time clinical professorships, they had not promoted actively this concept. In 1901 Welch said

The most urgent need in medical education at the present time in this country I believe to be the organization of our clinics both for teaching and for research in the spirit of this modern movement and with provision for as intimate, prolonged, personal contact of the student with the subject of study as he finds in the laboratory.²⁴

Welch, however, did not mention the importance of full-time professorship. Welch knew that the cost of establishing chairs with whole-time professors would be prohibitive and therefore introduction had to wait until endowments became available to cover the cost of this project. Welch was enough of a politician to avoid supporting a hopeless cause. "So he kept himself aloof from the excited talk of Mall and his colleagues, awaiting a suitable occasion with the patience that was fundamental to his character."²⁵

The idea of whole-time clinical professorship was discussed at medical meetings and the idea was also promoted by Mall's friend, Dr. Lewellys F. Barker. Barker, a graduate of the University of Toronto, was Resident of Pathology at Johns Hopkins from 1892 to 1899, when he left for Chicago to

24. Simon Flexner, p. 303.

25. Ibid., p. 304.

become Professor of Anatomy. In 1902, the "Western" Johns Hopkins alumni celebrated the twenty-fifth anniversary of the university. Barker was invited as guest speaker and his speech was entitled "Medicine and Universities."²⁶

In his speech Barker urged the introduction of what he called the "university idea" or in today's terminology, the "full-time system", in all clinical departments of medical schools. At that time, in addition to Johns Hopkins, a few other universities had their pre-clinical departments organized on a full-time basis, i.e., staffed with personnel giving all its time to the institution and not engaging in outside consultations. Nevertheless, the whole-time concept was not applied at all to clinical departments (medicine, surgery, gynecology, pediatrics).

Barker's speech was, therefore, a new departure and he was the first one in North America to advocate publicly the new system. It is ironic, that twelve years later, when invited to succeed Osler at Johns Hopkins Barker refused the full-time appointment for financial reasons.²⁷

After Osler's departure, Welch was the strongest personality amongst the professors. He was basically a laboratory man and became the most respected teacher on the

26. American Medicine 4 (1902): 143-47.

27. Chesney, 3:256.

faculty.²⁸ Welch graduated from Yale in 1870²⁹ where his main interest was the humanities. As he was unable to find a teaching position in the classics, he turned to medicine and entered the College of Physicians and Surgeons in New York in 1872, graduating three years later.³⁰ After interning at Bellevue Hospital in New York in 1876 he went to Europe. Welch spent a year in Germany and studied pathology in the laboratories of Ludwig and Cohnheim, the most active investigators of the day.³¹

Returning to America, Welch settled in New York and started his medical practice. In addition, Welch organized a small pathological laboratory at the Bellevue Hospital Medical College,³² where he conducted courses. The student response was heartening but the financial returns meagre. In 1884 he accepted the Professorship of Pathology at Johns Hopkins.³³ When Welch arrived in Baltimore at the end of 1884 to assume his duties at

28. Simon Flexner, p.304.

29. Ibid., p.46.

30. Fleming, p.24.

31. Simon Flexner, p.86.

32. Fleming, pp. 59-60.

33. Simon Flexner, p.128.

Johns Hopkins, no medical school or hospital existed. It fell to Welch to recruit the members of the medical faculty. When the medical school, after overcoming financial difficulties, finally opened in 1893, Welch became its first dean, a post he held until 1898. In 1907 Welch gave an address at the University of Chicago where he expressed the view that the heads of the clinical departments should be able to devote all their energies to teaching and running their departments in their capacity of heads of clinics. In spite of his views, Welch did not press the issue and it fell on the shoulders of Dr. Howell to promote the subject.

Dr. William H. Howell, who became Dean of the Medical Faculty after Welch, gave an address at Yale University in 1909, in which he came out strongly for placing clinical departments on a "university basis."³⁴ Howell felt that it was impossible for professors to devote themselves unreservedly to the demands of their duties as teachers and investigators, while at the same time keeping up a private practice. Howell advocated in his speech that either a time limitation be placed on outside practice or the positions be put strictly on a full-time basis and the professors should not be permitted to have their own private patients. Howell quoted with approval this development

34. Chesney, 3:129.

in the pre-clinical departments, where due to specialization in the pre-clinical subjects, it was impossible to do professional and research work and at the same time look after private patients.

Howell was convinced that clinical men were in the same position and therefore they should also give up their private practice.

In the same way precisely science and laboratory technique and the spirit of investigation are pushing hard into the clinical branches. The professor of medicine who gives himself to outside practice, (sic) and at the same time attempts to keep up with the scientific development of his subject and to make and direct the investigation which his position in a good school demands is putting himself under a great strain at present, and the indications are that soon this strain will become too great.

At this stage, it seemed that full-time clinical professorship was generally approved by the members of the faculty of Johns Hopkins. The school, however, did not have enough money to carry out this revolutionary change in the organization of the university. Lack of money prevented the world renowned Dr. von Pirquet from assuming a full-time professorship in Pediatrics at Johns Hopkins.

Clemens von Pirquet was a member of the Austrian nobility. He obtained his medical degree in 1900 at the University of Graz, in Austria. Then he specialized in pediatrics in Berlin where he studied the inoculation of humans with smallpox virus. His work there led to his most important contribution to medical knowledge and dealt with acquired hypersensitiveness, called "allergy" by von Pirquet.³⁶ von Pirquet came to Baltimore in 1909 and it appeared that he was interested in becoming professor of pediatrics at Johns Hopkins. However, in 1910 von Pirquet was offered the professorship at the University of Breslau and asked for a leave of absence to investigate this position.

A year later, in 1911, von Pirquet wrote to Johns Hopkins concerning his acceptance of the Chair of Pediatrics and declared that he would be interested only, if the department would be established on a full-time basis. At that time, however, Johns Hopkins was only able to offer \$7,500 per annum to von Pirquet, on condition that he would be looking after the patients of the hospital and also teaching, but not engage at all in private practice. While von Pirquet would have been

36. Chesney, 3:79.

permitted to see patients outside of the hospital and be available for consultations in case of emergencies, it was understood that the income from his private consulting work would go to the hospital.

Von Pirquet asked for a minimum salary of ten thousand dollars, and to close the gap, forty eight members of the medical faculty offered twenty-five hundred dollars to the university in order to make up the difference between the amount the university felt it could afford to pay to a full-time clinical professor and von Pirquet's demand. This offer by the members of the faculty was declined by the Trustees. While these negotiations were going on, von Pirquet was offered the Professorship of Pediatrics at the University of Vienna and he decided against joining Johns Hopkins. The negotiation with von Pirquet presented the first instance when the Trustees of Johns Hopkins were prepared to offer a substantial salary to a full-time clinical professor but nevertheless in 1910 the idea fell through due to lack of sufficient funds for the department.³⁷

A few years, later when money was made available, the Trustees of Johns Hopkins proceeded quickly with major

37. Ibid.

changes in their clinical departments. The introduction of whole-time clinical professorships at Johns Hopkins originated with the recommendations of Abraham Flexner. Flexner was born in 1866 and raised in Louisville, Kentucky. He received an A.B. at Johns Hopkins. Then Flexner started a private high school in Louisville. Due to his success as a teacher, he was offered a position with the Carnegie Foundation. Flexner's method of teaching was very successful and in his own words,

one day to my surprise I received a brief note from President Eliot (of Harvard) whom I had never seen, stating that his attention had been called to the fact that boys from my school were coming to Harvard younger and graduating in a shorter period of time than students from any other school. "What are you doing?" he inquired. I made this inquiry the occasion for visiting Mr. Eliot at Harvard. I told him it was all very simple, that I treated these boys as individuals, and that I let each go at his own pace. I took hold of pupils where they were strong, not where they were weak, and having whetted their appetite by success in one field, usually succeeded in arousing interest in another. I did not persist in vainly attempting the impossible and thus perhaps spoiling all. From time to time I encountered mathematical or linguistic morons, even among pupils otherwise gifted. For these I worked out sheer mechanical techniques which enabled them to pass college-entrance examinations, and I explained to them precisely what I was doing and why. Thus, if a pupil was good in languages, I encouraged him; if he was slow, I was patient. And so on in such other subjects,³⁸ as with our limited staff, we could manage.

In spite of his success, Flexner decided to close his school

38. Abraham Flexner, I Remember, (New York: Simon and Schuster, 1940), pp. 81-82.

and went to Harvard where he obtained his A.M. in education in 1906. Then he went to Europe and travelled through Great Britain and Germany and visited universities and secondary schools. Flexner wrote a book entitled The American College: A Criticism³⁹ in which he strongly criticized the elective system permitted by American universities. He also condemned lectures as a method of imparting knowledge.

Upon his return to America, Flexner was introduced to Dr. Pritchett, the President of the Carnegie Foundation for the Advancement of Teaching. To his great surprise, Dr. Pritchett offered him a job to prepare a study of medical schools. When Flexner pointed out that he was not a medical man Pritchett replied

That is precisely what I want. I think these professional schools should be studied not from the point of view of the practitioner but from the standpoint of the educator. I know your brother, so that I am not laboring under any confusion. This is a layman's job, not a job for a medical man.⁴⁰

Flexner visited almost every medical school in the United States and Canada but "found only one medical school in

39. Abraham Flexner, The American College: A Criticism, (New York: The Century Company, 1908).

40. Abraham Flexner, I Remember, p.111.

America of which he had no serious criticism, that built by his idol Gilman, the President of Johns Hopkins and his brother Simon's idol Welch."⁴¹

In his report Flexner proposed that the number of the medical schools be drastically reduced and those left in existence should pattern themselves after Johns Hopkins. Flexner reviewed in depth the laboratory and clinical facilities of every institution visited by him. Flexner's criticism was generally accepted and the impact of Bulletin Number Four of the Carnegie Foundation was immediate and far reaching in raising the standards of medical education.⁴² "Schools collapsed to the right and left, usually without a murmur."⁴³ Several schools were consolidated into one, laboratories were added and new, stricter admission standards became the rule.⁴⁴

After the success of his report on American, and

41. Fleming, p.174.

42. Seely, p.19.

43. Abraham Flexner, I Remember, p.131.

44. Cushing, p.388. Cushing makes reference to Johns Hopkins' high admissions standards that were already in effect in 1893, "We....wondered if any students would come or could meet the conditions, for we knew that we could not. As Osler said: 'Welch, it is lucky that we get in as professors; we never could enter as students.'"

Canadian medical education, Flexner was kept on staff by the Carnegie Foundation and assigned to prepare a report on medical education in Europe, concentrating on Great Britain, Germany and France. In England, Flexner met Sir William Osler, at that time Regius Professor of Medicine in Oxford, who gave his full support.⁴⁵ After Great Britain, Flexner visited the German universities and studied their system of medical training. During his stay in Germany, Flexner met Frederick P. Mall, Professor of Anatomy at Johns Hopkins and a great believer in the whole-time clinical system. Mall was very effective in drawing Flexner's attention to things he considered important.

Lightly, almost unconsciously, he would ask the simple question which would call my attention to something which, as he thought, I ought to notice. In the report which I subsequently wrote the chapters dealing with medical education in Germany were profoundly influenced by Mall's apparently unconscious comments, criticisms, and suggestions. He never tried to tell me anything, but led me to see what I might otherwise have overlooked. With mature men and women of superior intelligence Mall never failed to bring off his chosen trick of teaching without teaching; and Flexner was a very important pupil.⁴⁶

After his return to America, Flexner was invited by Mr. Frederick T. Gates, "who had been for many years confidentially

45. Abraham Flexner, I Remember, p.137.

46. Fleming, pp. 174-5.

associated with John D. Rockefeller." ^{47.} Flexner relates his conversation with Gates over lunch.

What would you do with a million dollars to re-organize medical education." "Without a moment's hesitation, I replied, "I should give it to Dr. Welch With an endowment of four hundred thousand dollars Dr. Welch has created, in so far as it goes, the one ideal medical school in America. Think what he might do if he had a million more. Already the work Dr. Welch and his associates have done in Baltimore is having its effect in reorganizing the personnel of medical schools elsewhere, and we must not forget that but for the Johns Hopkins Medical School there would probably be no Rockefeller Institute for Medical Research in New York today. 48

Shortly thereafter Flexner went to Baltimore, got in touch with Welch and indicated that the Johns Hopkins Medical School may receive a substantial additional endowment from the Rockefeller Foundation, for whom Flexner was to prepare a report. Flexner met Welch, Mall and Halsted who took advantage of this opportunity to promote their ideas concerning whole-time clinical professorship.

Mall was especially outspoken

47. Abraham Flexner, I Remember, p. 176

48. Ibid., p. 177.

If the school could get a sum of approximately a million dollars, in my judgement, there is only one thing that we ought to do with it — use every penny of its income for the purpose of placing upon a salary basis the heads and assistants in the leading clinical departments, doing for them what the school did for the underlying medical sciences when it was started. This is the great reform which needs now to be carried through.

Flexner's recommendations were submitted to the Rockefeller Foundation and also forwarded to "Dr. Welch and his associates and through them to the trustees."⁵⁰ In his report, Flexner reviewed in depth the laboratory and clinical facilities of Johns Hopkins and put special emphasis on budgetary factors. He noted that the salary of the professors in charge of the pre-clinical departments was \$5,000.00 per annum and emphasized that they were on a full-time basis. Flexner's salary at that time was also \$5,000.00 (from the Carnegie Foundation) and he considered the professors' salary quite adequate. Flexner thought that pre-clinical professors were most satisfied with their remuneration and therefore stayed in their posts for many years. Only the junior staff was changing and underwent a "constant flow." According to Flexner "this state of affairs is ideal," — the constant change of assistant and associate professors kept up the spirit of investigation at

49. Ibid., p.178.

50. Chesney, 3:137.

the university.⁵¹

On the other hand, Flexner was critical of the large enrolment and considered the school too big to give proper training to the students. Indeed, the number of students was so great that they had to draw lots for the sixty places available in the pharmacology class and half of the students did not get the opportunity to participate in the experimental course.⁵² The inadequate facilities decreased the educational standards at the medical school and therefore Flexner advocated a substantial reduction in the number of students.

While Flexner's report carefully analyzed the pre-clinical departments, for the purpose of this thesis his views concerning the hospital and the clinical departments are more significant. In his report Flexner reviewed the financing of the hospital and carefully detailed the revenue obtained from the patients. While the total cash receipts amounted to \$205,000.00 in 1910, from this amount only \$842.00 came from surgical fees. Flexner's conclusion was that "the

51. Abraham Flexner, Report on the Johns Hopkins Medical School. Confidential Report for the Consideration of the Chairman of the Administrative Committee of the Johns Hopkins Medical School, (Baltimore, Maryland: 1913), From the Archives of the Osler Library, McGill University, Montreal. p.3

52. Ibid., p.4.

private wards....do not pay (their cost) and they have become in large measure high priced sanatoria (sic) for the well-to-do private patients of the prominent clinicians connected with the hospital and medical school."⁵³

Flexner's conclusions were correct. Initially, patients who could afford to pay the cost of service plus the price of accomodation in a private room, were not considered the private patients of a doctor, but patients of the hospital itself. These cases were called "house cases" and admitted to the various clinical departments. The house patients were looked after by the chief of the service and his assistants. The fees paid for professional services by the "house patients" went into the general funds of the hospital.⁵⁴ During the early years of the existence of Johns Hopkins Hospital, these "house patients" outnumbered the private patients of the professors.

Flexner notes that the hospital's income from surgical fees reached its peak in 1899, when it was over \$5,000.00.⁵⁵ Beginning with 1900, the hospital's income from this source was on a constant downtrend. This was due to the

53. Ibid., p.10.

54. Chesney, 2: 220-21.

55. Abraham Flexner, Report on the Johns Hopkins Medical School. p.11.

fact that in 1900 ward privileges were extended to associate professors, who were also permitted to collect and keep their professional fees.⁵⁶ This arrangement meant that instead of being admitted to the wards and assigned to a physician, the patients were brought into wards by their own doctors. Therefore their stay did not contribute much to the finances of the hospital, but became "immensely profitable to its staff."⁵⁷

Flexner condemns this system in strong words "The pay wards are thus an obvious convenience and advantage to the small number of professors privileged to use them, and they are practically full all the time, with a waiting list.... The tendency to fill them with patients who come to these physicians personally and not to the hospital as such has been developed by those to whom it has been a source of large income."⁵⁸

Flexner also analyzed the salaries paid to the clinical specialists. Although the professor of medicine was paid \$5,000.00, the others were paid much less: The Surgeon-in-Chief and the

56. Chesney, 2: 98-99.

57. Abraham Flexner, Report on the Johns Hopkins Medical School. p.11.

58. Ibid.

Professor of Gynecology only received \$3,000.00 per annum while the Professor of Obstetrics only \$2,000.00. These relatively small salaries were substantially augmented by the income the clinical professors received from their private patients.

Flexner compared the achievements of the full-time pre-clinical professors with those of the clinical staff and found that "the clinical staff has been on the whole less productive and less devoted. The instructors do not devote their time to science and education....and the clinicians have with very few exceptions proved too easy victims to the encroachments of profitable practice."⁵⁹ Flexner felt that "teaching and hospital work go by the board when a large fee is in prospect." He faulted the professors for leaving town and abandoning their patients to assistants when there was an opportunity to act as consultants to out-of-towners, "not because they are scientifically interesting but because they are pecuniarily

59. Ibid., p.14.

worthwhile" and saw "the displacement of science and education by business."⁶⁰ These harsh and condemning words were the primary reason for Osler's passionate defence of his work at Johns Hopkins, to be analyzed later in this chapter.

According to Flexner the lure of lucre extended beyond the clinical professors. While the pre-clinical assistant professors were staying for a few years only, Flexner noted that the assistants of clinical professors were remaining in their positions too long, as they were cashing in on the reputation of Johns/Hopkins Hospital: their position with the institution served to establish their own reputation and enabled them to supplement their small salary with a substantial income from private practice.⁶¹

Flexner's conclusion was that the clinical chairs "must be placed on a university basis, proper salaries" paid to the clinical professors but at the time they must not be allowed to keep their private fees.⁶²

60. Ibid.

61. Ibid., p.15.

62. Ibid.

Flexner suggests that the professors at the various clinical departments be paid a salary of \$7,500.00 per annum⁶³ and their fees for professional services should accrue to the benefit of the hospital. According to Flexner's calculation these private fees would contribute to the salaries of the full-time professors and provide additional funds for the expansion of the hospital.⁶⁴

Flexner's report should have been kept confidential. Nevertheless, according to Professor Howard A. Kelly, a copy of the report was lying around on Professor Welch's desk more than a week.⁶⁵ Kelly made the contents of the report known to Sir William Osler, who at that time was Regius Professor at Oxford. Osler fired the opening salvo of this controversy in his letter dated May 23, 1911, addressed to Professor Welch.

Osler took a strong objection to the salary of

63. Ibid., p.22.

64. Ibid., p.23.

65. Letter from Professor Howard A. Kelly to Dr. Osler, May 3, 1911. An unpublished collection of "confidential reports, correspondence" on the Johns Hopkins Medical School contained in the Archives of the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14.

\$7,500.00, suggested by Flexner and declared that such pittance "would spell ruin to the hospital." He felt that "good men" would only stay a few years at Johns Hopkins and "would flit off inevitably." Osler thought that salaries in the \$15,000 to \$20,000 range would be required to obtain and hold competent professors. In his letter, Osler defends himself from the implied criticism of the report: "I did not find it hard to spend every cent of the income I made from patients in the sixteen years I was in the hospital."⁶⁶

At this point, Osler's primary objection to the appointment of whole-time professors was financial. He was stung by Flexner's criticism of the high incomes earned by the clinical professors. Indeed, Osler put his finger on the crux of the matter: Flexner's report is belaboring the earnings of the professors to a great extent and hardly emphasizes the educational advantages of whole-time professorship.

66. Chesney, 3:138.

As Osler expected, the views of the faculty members were not homogeneous. The professors were divided between two opposing approaches. Franklin P. Mall, one of the first advocates of the whole-time system was supported by J. Whiteridge Williams, Dean of the Medical Faculty. At the time of his nomination, Williams announced that he would work for whole-time clinical professorships. Williams agreed with Flexner's criticism of the clinical branches and felt that "the remedy he proposes is substantially correct."⁶⁷ During this time Welch kept his options open and Halsted was just as non-committal as his friend, Welch. The strongest opponent of whole-time clinical professorship was Howard A. Kelly. Apart from the conflict of principle, Kelly was deeply hurt that Flexner, during his stay of over two weeks, did not find time to speak with him. Kelly considered this proof of Flexner's bias, confirmed by the fact that Flexner contacted all the full-time pre-clinical professors immediately upon his arrival and arranged a meeting with some clinical men only later.⁶⁸

67. Ibid., 3:139 Quoting a document in the Archives of the School of Medicine which is attributed by Chesney to J. Whitrige Williams.

68. Letter From Professor Howard A. Kelly to Dr. Osler, May 1, 1911. An unpublished collection of "confidential reports, correspondence" on the Johns Hopkins Medical School contained in the Archives of the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14. p.1.

It was Kelly, who kept Osler informed about the principal recommendation of the report i.e. that clinical professors be employed on a full-time basis, at a salary of \$7,500.00 and be forced to turn over to the university all their income from private patients. Kelly relayed his fears to Osler and indicated that he would be unable to stay at Johns Hopkins under these circumstances. Kelly was greatly dependent on his income from his private patients and also the revenue from his private hospital. He implied that Halsted's private fortune and Williams' personal resources permitted them to become full-time professors at the salary recommended by Flexner. Kelly correctly judged, that Barker - who in principal approved whole-time professorships - will not be ready to give up his private practice, as the salary of \$7,500.00 would not meet his cost of living.⁶⁹

Apart from the question of full-time professorships, Kelly foresaw another problem: medical charges lower at Johns Hopkins, than at his private hospital would ruin him financially.⁷⁰ Kelly therefore declared himself ready to

69. Ibid., p.2.

70. Ibid., p.6.

retire from Johns Hopkins and transfer all his work to his private hospital.⁷¹ These comments are putting Kelly in an unfavorable light and he appears as a money-hungry individual. This conclusion, however, is most unfair to Kelly, as his generosity was proven on many occasions.

In 1901 when Kelly learned of the financial problems that forced a limitation of patients, he donated \$10,000.00 towards the extension of Ward H. This major gift followed a donation of X-ray equipment for the use of the Gynecological Department.⁷²

Although Kelly was often criticized for his high fees, he was always ready to help the indigent. After being in practice only a few years, he started a private hospital in the Kensington district of Philadelphia, a poor industrial section of the city.⁷³

In 1904 a big fire destroyed seventy city blocks. While the hospital itself did not suffer any fire

71. Letter From Professor Howard A. Kelly to Dr. Osler, May 3, 1911. An unpublished collection of "confidential reports, correspondence," etc., on the Johns Hopkins Medical School, contained in the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14. p.1.

72. Chesney, 2:96.

73. Ibid., 1:114.

damage, business properties representing nearly one half of Johns Hopkins Hospital's endowment, valued at \$1,300,000.00, were lost in the fire.⁷⁴ Although shortly thereafter John D. Rockefeller Sr. donated a half million dollars to make up the loss,⁷⁵ nevertheless the financial situation of the hospital remained precarious and the Trustees decided to reduce expenses by closing down the children's ward and Ward E. When Kelly learned about the financial situation, he wrote Dr. Hurd, the superintendent of the hospital and offered to "relieve the Trustees of all obligation to send me any further remittance for my services, to the amount I believe of \$2,000.00 which comes from the hospital."⁷⁶ Although Kelly's offer was declined, it nevertheless puts him in a favourable light.

Kelly's objection was also one of principle. He considered the obligation of whole-time professors to hand over their income from their patients as being used

74. Ibid., 2:379.

75. Ibid., 2:394.

76. Ibid., 3:25.

as "milch cows."77.

Once Kelly had a copy of Flexner's confidential report on Johns Hopkins Medical School, his bitterness knew no limits. Kelly summarized Flexner's confidential report in two sentences:

1. "that we exploited the hospital for the money we got out of it....."
2. "that we were defunct scientifically."78

In answer to these charges Kelly reviewed his own finances during the fourteen years spent at Johns Hopkins. Kelly stated that in this period he received only \$42,000.00 in form of salary but during the same time he returned \$92,000.00 to the hospital.

From this amount \$71,000.00 "went to my artist."79
The artist in question was Max Broedel, who worked for Carl

77. Letter From Professor Howard A. Kelly to Dr. Osler, May 3, 1911. p. 5.

78. Letter From Professor Howard A. Kelly to Dr. Osler, May 29, 1911. An unpublished collection of "confidential reports, correspondence" on the Johns Hopkins Medical School contained in the Archives of the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14. p. 3.

79. Letter From Professor Howard A. Kelly to Dr. Osler, May 1, 1911. p. 5.

Ludwig in Leipzig and was an acquaintance of Franklin P. Mall. When Kelly was looking for a medical illustrator to work on his gynecological textbook, he had Broedel come from Germany and from 1894 he paid his full salary. Only after Broedel's appointment, in 1910, as "Instructor in Art as Applied to Medicine" was Kelly relieved from this heavy financial burden.⁸⁰

In addition to these expenses, Kelly claimed to have contributed \$131,000.00 to philanthropic causes and concluded that "greed and love of money has not contaminated me in the way suggested by my colleagues."⁸¹ Kelly was so upset that during the month of May 1911, he wrote five letters to Osler complaining about Flexner's report.⁸² In these letters Kelly related to Osler, that he did not force his views on his colleagues, but nevertheless, warned the members of the faculty that if the new system is introduced, he would retire from Johns Hopkins and concentrate on his private work. Kelly was

80. Chesney, 2:440-41.

81. Letter From Professor Howard A. Kelly to Dr. Osler, May 1, 1911. p.6.

82. Letters From Professor Howard A. Kelly to Dr. Osler,
 May 1, 1911.
 May 3, 1911.
 May 9, 1911.
 May 20, 1911.
 May 29, 1911.

An unpublished collection of "confidential reports, correspondence" on the Johns Hopkins Medical School contained in the Osler Library (No. 7651) in two volumes dated 1911 and 1913-14.

also very disturbed by Flexner's recommendation of merging the gynecological and obstetrical departments, which he considered as separate and independent specialties.⁸³

Still the emphasis in Kelly's letters was on monetary considerations. He felt that Hurd, Chairman of the Committee on Graduate Education and Professor of Psychiatry, was jealous of the substantial fees earned by the clinicians and the Professor of Gynecology considered all the opponents of the status quo envious of the financial success of the clinical professors. Kelly could not see any question of educational principle, but only envy on part of his rivals.⁸⁴

Kelly was so obsessed with Flexner's report that he advised Osler in his letter of May 9, 1911, "that another secret report has been circulated amongst the trustees,"⁸⁵ although there is no evidence that such a second report to

83. Letter From Professor Howard A. Kelly to Dr. Osler, May 3, 1911, p. 1.

84. Ibid., p. 2.

85. Letter From Professor Howard A. Kelly to Dr. Osler, May 9, 1911. p. 1.

the Trustees actually existed. None could be found in the Osleriana Archives nor is it mentioned by Chesney in his definitive history of The Johns Hopkins Hospital and the Johns Hopkins University School of Medicine.⁸⁶

Flexner's criticism of the substantial income earned by clinical professors sufficiently aroused Osler to write to Cushing, and in view of Flexner's indictment, defend his own integrity. "There seems to be a general impression that we clinical men make large fortunes in a few years. I did not take away from Baltimore a dollar made in practice; it all got into circulation again! I got away with a little less than my book brought me."⁸⁷

This thought runs through Osler's letter to Welch, written a few days later. After discussing the difficulty of getting and holding good men at the salary level recommended by Flexner, Osler reverts to the question of his personal finances. He reiterates that "every cent of the income I made from patients in the sixteen years was

86. Alan M. Chesney, M.D., The Johns Hopkins Hospital and The Johns Hopkins University School of Medicine, 3 volumes. (Baltimore: The Johns Hopkins Press, 1963).

87. Letter From Dr. Osler to Dr. Harvey Cushing, May 13, 1911. An unpublished collection of "confidential reports, correspondence, etc., on the Johns Hopkins Medical School contained in the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14.

spent."⁸⁸ The question of income must have also been discussed in Osler's replies to Kelly's letters but unfortunately these letters cannot be found. The only reference to Osler's replies is in Kelly's communication of May 20, 1911.⁸⁹

Kelly felt that the battle against the whole-time concept was already lost by the end of May, 1911 as all professors at the Medical School were praising Flexner's Report. Kelly was convinced that Mall stood behind the promotion of the whole-time plan and this idea must have appealed to Osler as he saw Mall as his antagonist at Johns Hopkins. Before leaving Baltimore to take up his post in Oxford, at the last faculty meeting Osler turned to Mall and said: "Now I go and you can have your way."⁹⁰

Welch's attitude was crucial in the ongoing conflict and he was strongly influenced by Dean Williams. While Williams was always a strong supporter of the whole-time clinical concept, he was accused by Kelly of coveting

⁸⁸. Chesney, 3:138.

⁸⁹. Letter From Professor Howard A. Kelly to Dr. Osler, May 20, 1911.

⁹⁰. Fleming, p. 171.

Kelly's professorship, and hoping to obtain a three hundred per cent increase of income in case of Kelly's forced retirement, by taking over Kelly's position.⁹¹

Flexner's Confidential Report was first sent to Osler by Welch, attached to a letter dated June 2, 1911. In his communication to Osler, Welch indicated that he has not taken a definite stand as yet. "I do wish that you were here to advise us about the clinical proposition."⁹²

In spite of the above, Welch was ready to introduce whole-time clinical professorships as he felt that a million dollars is something that Johns Hopkins cannot refuse.

If we do not do it the money will go elsewhere where they are ready to take it up in carrying out the plan. We shall stand still or drop back unless we are ready to advance in this direction which is that of coming reforms in medical education.⁹³

91. Letter From Professor Howard A. Kelly to Dr. Osler; May 29, 1911.

92. Letter From Professor William H. Welch to Dr. Osler, June 2, 1911. An unpublished collection of "confidential reports, correspondence" on the Johns Hopkins Medical School contained in the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14. p. 2.

93. Ibid., p. 3.

Osler received a copy of Flexner's report from President Ira D. Remsen, and enclosed in it was Dr. Welch's report, entitled On the Endowment of University Medical Education and was originally addressed to Frederick T. Gates of the Carnegie Foundation.

This report analysed Flexner's recommendations in detail. Welch thought that the majority of the faculty was in favour of the whole-time clinical concept and felt that the same attitude would prevail among the trustees. Welch in his covering letter to Gates was perfectly honest and admitted that Osler was against the idea.

In this report Welch summarized the objections from various sources against the whole-time plan. The main objections concerned "the alleged difficulty or impossibility of securing and holding the best men for the positions with such salaries as could be contemplated,"⁹⁴ i.e. at a salary of \$7,500.00. In Welch's view this was a valid point. He admitted that during the first few years of the new system it may be difficult to obtain skilled medical practitioners, who are at the same time "productive investigators." Welch realized that top doctors accepting

94. Simon Flexner, p. 310.

the whole-time positions would have to make a "large pecuniary sacrifice."⁹⁵ Nevertheless he felt that the opportunity for scientific work and participation in this experiment to reform medical education will provide enough well-qualified candidates for the position. Welch hoped that in a few years, the introduction of the whole-time system would lead to the development of a corps of assistant and associate professors, who are qualified to become clinical professors.⁹⁶

Welch also mentioned in his report another justified criticism of the plan:

the difficulty of keeping the public and the profession away from men with the reputations these clinicians should have, and the loss to the community and medical practitioners by withdrawal of such men from outside practice, and third the contention that limitation to practise within the hospital would deprive the teachers of opportunities and experience valuable to them in their own development, in their training of students destined to become practitioners.⁹⁷

Welch argued, that these problems could be overcome by permitting the whole-time professors to see their private patients, - on a limited basis - while assuring that the professional fees earned by the professors will go to the

95. Chesney, 3:145.

96. Ibid., 3:146.

97. Simon Flexner, p. 310.

university or hospital.

Welch also considered that limiting the clinical professor's practice to the hospital would be "harassing, improper and unnecessary,"⁹⁸ considering that the Trustees have put their confidence in these professors. However, Welch was convinced that once "the tradition has been established rigid stipulations regarding the full-time service would no longer be needed."⁹⁹

These comments show that Welch made an honest effort to see both sides of the argument and presented them in a fair manner to Gates. Welch even quotes Osler's comments, to Gates.¹⁰⁰ Welch mentions Osler's letter to Cushing concerning the inadequacy of the \$7,500.00 annual salary for top doctors.¹⁰¹

98. Chesney, 3:145

99. Simon Flexner, p. 311.

100. Chesney, 3:141. Letter From Professor William H. Welch to Mr. F.T. Gates, June 2, 1911.

101. Letter From Dr. Osler to Dr. Cushing, May 13, 1911.

By this time the Trustees and faculty members were prepared to give a chance to this untried experiment and most of them supported the whole-time system. Although Welch was still undecided, being a laboratory man, the idea of whole-time obviously appealed to him: he deliberately cut himself off from the work of a consultant, in order to pursue his own scientific interests. Welch was "self-contained and a little cold."¹⁰² Welch's strongest supporters in this conflict were Mall and Halsted "in whom Osler found and feared the image of the 'full-time' man... (For Welch),.... their intellectual distinction predominated over any possible defects."¹⁰³

Welch's Report on the Endowment of University Medical Education was forwarded by Ira D. Remsen, President of Johns Hopkins University to Sir William Osler informing him that the "Faculty have reached a practically unanimous decision"¹⁰⁴ and expressing his regrets that Osler does not support the whole-time concept. Remsen's covering letter is dated July 6, 1911 and it reached Osler while he was vacationing in Wales. Osler immediately acknowledged

102. Fleming, p. 167.

103. Ibid., p. 168.

104. Chesney, 3: 159.

receipt of the report and promised a detailed answer. Osler's reply has been printed by Oxford Press and he sent the original to Dr. Remsen, and copies to the professors of the medical school and three doctors at the hospital. Such a distribution was certainly far beyond the scope of a "family letter, strictly confidential and not for publication."¹⁰⁵

In his letter Osler first of all established his own qualifications to discuss Flexner's report. He considered Flexner a man who knows the profession "only from the outside." Osler knew that whole-time clinical professorship was "a big question with two sides, I have tried to see both as I have lived both."¹⁰⁶ He took Flexner to task for his comment that clinical professors have been less productive than those on the laboratory side. Osler denied the statement "in toto."¹⁰⁷ Osler's

105. William Osler, Whole-Time Clinical Professors. Letter From Sir William Osler to President Ira D. Remsen, President, Johns Hopkins University. Dated September 1, 1911. Family letter, strictly confidential and not for publication. From an unpublished collection of "confidential reports, correspondence, etc., on the Johns Hopkins Medical School including original draft of letter to Remsen," contained in the Osler Library (No. 7651) in two volumes dated 1911 and 1913-14.p.1.

106. Ibid., p.7.

107. Ibid., p.4.

arguments were not restricted to generalities. He answered Flexner's statement point by point.

Osler dealt with great indignation with the implied accusation that he and his colleagues - with big private practices - benefitted financially from excessive fees paid by their patients. He admitted that "against the sin of prosperity, which looms large in Mr. Flexner's Report, the clinical professor must battle hard."¹⁰⁸ Osler, however, felt that his own work schedule was beyond reproach: he spent the morning teaching and in the laboratories, and did not see private patients until 2 P.M. He considered it reasonable to spend a few hours in the afternoon in consultative work.

Osler of course was very much bothered by the question of finances and had to refute Flexner's implication that clinical professors enriched themselves at the expense of the hospital. Just like Kelly, Osler felt that it was necessary to repeat his statement to Cushing in his letter to Remsen.¹⁰⁹

108. Ibid., p.1f.

109. Letter From Dr. Osler to Dr. Harvey Cushing, May 13, 1911.

"I took out of Baltimore not one cent of all the fees - none of which came from the hospital patients - I received in the sixteen years of my work."¹¹⁰ Not only has Osler rebutted the charge that he amassed a fortune from his private practice while in Baltimore, but Osler turned the table:

We are all for sale, dear Remsen. You and I have been in the market for years, and I have loved to buy and sell our wares in brains and books - it has been our life. So with institutions.¹¹¹

Osler implied that Johns Hopkins was prepared to make major changes in its teaching set up, in order to satisfy the recommendations of the Flexner Report, please the Rockefeller Foundation and obtain a gift of \$1,500,000.00.

Once the question of personal finances was out of the way, Osler dealt with the crux of the problem. Osler felt that while the primary functions of research institutes and laboratories were the advancement of knowledge, a university hospital was in a different position. Its main duties were

110. Osler, Whole-time Clinical Professors, A Letter To President Remsen, September 1, 1911, p.11.

111. Ibid., p.13.

1. "the care and cure of the patients"
2. "the teaching of the young man the art of medicine"
3. "coordination of the above with the advancement of knowledge"¹¹²

In Osler's opinion, professors who are pre-occupied solely with teaching and research "are ex-officio out of touch with the conditions under which these young men will live."¹¹³

Osler realized that the functions of a clinical professor also included administrative duties. While Osler did not use words from the vocabulary of today's business-school, he realized that the clinical professor had to satisfy the standard objectives of an administrator.

In a big clinic, the importance of a head is not to be able to conduct each division separately, but to have sense enough to train, or pick men who can; men who know their 'job' and who trust a chief, whose saving gift is co-ordinating the different departments. So in a clinic the greater part of the work must be done by juniors. ¹¹⁴

In the above paragraph Osler enumerated the attributes of an executive, a true leader of men, who had to imbue his staff with trust and inspiration and guide them in their endeavours.

112. Ibid., p.6.

113. Ibid., p.8.

114. Ibid., p.7.

These administrative functions of the whole-time professor remained with us during the past half century. The MacFarlane Report On Medical Education In Canada dealt at great length with the administrative responsibilities of full-time professors. The authors of the Report felt that the administrative functions were part and parcel of the whole-time professor's duties and considered that the whole-time professor required "a considerable load of administrative ingenuity ... some heads do this job well; others leave much of it to efficient departmental secretaries."¹¹⁵ So Osler was right on the mark when he emphasized the administrative functions of the professors and the importance of their becoming successful directors of their departments. The chief must have "a big enough mind to grasp the art of successful delegation."¹¹⁶

Osler did not comment on Welch's report that would have permitted consulting work at the hospital as long as the professional fees were paid to the hospital.

115. J.A. MacFarlane et al., Medical Education In Canada, Royal Commission on Health Services, (Ottawa: Queen's Printer, 1965), p.97.

116. Osler, Whole-Time Clinical Professors, A Letter to President Remsen, September 1, 1911. p.6.

Apparently there were

many persons (who) thought that the department heads would not be allowed to have patients under their own care or act as consultants for them even though the fees would go to the institution and not to the physician or surgeon. ¹¹⁷

Here we have a dilemma, with no obvious solution.

Chesney gave Osler the benefit of the doubt: "Osler's letter suggests that he may have been writing under such a misapprehension."¹¹⁸ But how could Osler miss this

important point, spelled out in detail in Welch's report.

We are, nevertheless, left with the impression, that Osler saw the whole-time professors completely cut off from any consultative work: in his letter Osler was centering his arguments on this presumed shortcoming of the whole-time system of clinical teaching.

Another important issue was the problem of finding competent professors at the salary of \$7,500.00 per annum. Osler was not as optimistic as Welch about finding first class clinical men, as they could earn a

117. Chesney, 3:186.

118. Ibid.

substantially higher income as practicing physicians and consultants. "If a man's value in the open market is to be considered, do not insult him by offering \$7,500.00."¹¹⁹

During the first decade of the twentieth century, the income of well-known physicians was substantially higher than the earnings of medical men today, when compared to the income level of the general population. In 1910 the income of a plumber, working a fifty four hour week was less than \$1,000.00 annually, while a pressman working in a printing shop was earning for a forty eight hour week a salary of less than \$800.00 per year.¹²⁰ Full-time laboratory professors at Johns Hopkins were paid a salary of only \$2,500.00. Nevertheless Halsted, was earning in excess of \$20,000.00.¹²¹

119. Osler, Whole-Time Clinical Professors, A Letter To President Remsen, September 1, 1911. p.13.

120. Canada-Department of Labour: Wages and Hours of Labour In Canada, 1901-1920, (Ottawa: Thomas Mulvey Printer to The King's Most Excellent Majesty), 1922.

121. Chesney, 3:151. Welch states that "Dr. Halsted, the present head of the department of surgery, whose exceptional qualifications for the position have been so justly emphasized by Mr. Flexner in his report, is an enthusiastic advocate of the proposed plan, although even with a salary of \$10,000.00 his present income will be reduced at least one half."

It is not unreasonable to assume that Osler's income was well in excess of this amount, although no record can be found to confirm it. By today's standards Osler's revenue was very substantial. If, for the sake of comparison, a figure of only \$20,000.00 is accepted as Osler's income, at Hopkins in 1904 he still earned over twenty times the revenue of a skilled tradesman. Today, in Canada there are certainly not too many medical practitioners earning such a high multiple of a plumber's income.

Osler's earnings were very high, even if compared to the revenue of full-time clinical professors of the past decade. According to the MacFarlane Report On Medical Education, the salaries for full-time department heads in Canada varied from a low of \$11,000.00 to a high of \$18,000.00.¹²² Sixty years later - in Canada - the income of full-time department heads in medical schools was less than the income of a clinical professor of Johns Hopkins at the beginning of the century. And there was no income tax in those days.

Indeed in Osler's days the top medical men earned very high incomes due to their private practice,

122. MacFarlane, p.97.

and Osler was correct in assuming that they would hesitate to accept appointments on a whole-time basis as it meant a very substantial reduction of their income.

Osler emphasized that amongst those primarily interested in research, there were "few with Welch's broad spirit," but most researchers are "confined within four walls of a hospital, practising the cloistered virtues of a clinical monk."¹²³ This attitude, however, was not acceptable for clinical professors, who must be "students of wider problems of social reform so closely associated with disease (Therefore) the clinical man should come into contact with the public, whose foibles they should know, and whose advisers they should be." Professors restricted to research are "little fitted to train medical students for the hurly-burly of life"¹²⁴ and should stay in their laboratories.

Osler contrasted his own varied activities with a professor who would not be in touch with other members of the medical profession and the general public

123. Osler, Whole-Time Clinical Professors, A Letter To President Remsen, September 1, 1911. p. 8.

124. Ibid., p. 9.

and saw them as "barren." These whole-time professors would become

clinical prigs, whose horizon would be the laboratory, and whose only human interest was research, forgetful of the wider claims of a clinical professor as a trainer of the young, a leader in the multiform activities of the profession, an interpreter of science to his generation, and a counsellor in public and in private of the people, in whose interests after all the school exists. ¹²⁵

Osler realized that it may present a problem to keep the private practice of a professor "within bounds, but it should not be impossible to frame regulations to ensure that the major part of the time of the clinical professors is given to the clinics."¹²⁶

Indeed the problems Osler foresaw are still with us. Analysing the situation in Quebec, a work written in 1968 mentions the need for "un plafonnement de la rémunération totale" of a whole-time clinical professor.¹²⁷ The author saw the question of remuneration as the major dilemma of the whole-time clinical system.

125. Ibid.

126. Ibid., p.10.

127. Yves Jetté, Le Plein Temps Géographique Dans Les Hôpitaux D'Enseignement De La Province De Québec, (Montréal: W.K. Kellogg Foundation, 1968). p.101.

In his study Jetté found.

la rémunération semble être le point le plus litigieux dans ce phénomène d'institutionnalisation de l'enseignement médical en milieu hospitalier. Il apparaît à l'auteur que l'on devrait peut-être, à l'avenir, négocier simultanément les disponibilités hospitalières, les avantages sociaux et la sécurité d'emploi ainsi que la rémunération. Ne voulant pas citer de chiffres absolus au sujet du montant total de la rémunération, l'auteur croit cependant qu'une rémunération qui comporterait un "plafonnement" équivalent au double du salaire de base serait probablement satisfaisante pour la majorité des pleins temps géographique, compte tenu des autres facteurs inhérents à la fonction qui seraient simultanément améliorés. ¹²⁸

This hope for a uniform ceiling has still not materialized and many competent professors would hesitate to become full-time teachers if only allowed one and a half times or twice their base salary as a maximum. ¹²⁹

Analysing the whole-time system, Osler was concerned that it may turn into an efficient machinery for clinical teaching, but at the same time hospitals with

128. Ibid., p.105.

129. Ibid.

university affiliation would not remain

a place of refuge for the sick poor of the city - a place where the best that is known is taught to a group of the best students - a place where new thought is materialized in research - a school where men are encouraged to base the art upon the science of medicine - a fountain to which teachers in every subject would come for inspiration - a place with a hearty welcome to every practitioner who seeks help. ¹³⁰

Osler's words were prophetic: commenting on Osler's letter, Raymond Pruitt writes that although "Excellent health care is widely acclaimed as a right of all our citizens but nevertheless a right which goes unfulfilled." Even today, hospitals produce "attitudes that are disease-oriented, not patient-oriented, goals that belong more to the realm of science and less to the realm of humanism than they should."¹³¹ Osler foresaw that a strict full-time system may turn university hospitals into research institutes, where the objectives of science may take precedence over the

¹³⁰. Osler, Whole-Time Clinical Professors, A Letter To President Rensen, September 1, 1911. p.13.

¹³¹. Raymond D. Pruitt, M.D., Commentary on William Osler's "On Whole-Time Teaching in Medical Schools," to President Rensen, in John P. McGovern, M.D., and Charles G. Roland, (eds.), Wm (sic) Osler, the Continuing Education, (Springfield, Illinois: Charles C. Thomas, 1969), p.311.

needs of the patients. The tendency of concentrating on research is still with us today and "Patient care, particularly from the individual point of view, can be lost in the expanding research and teaching atmosphere."¹³²

The receipt of Osler's letter created a deep conflict at Johns Hopkins. Mall's position, in favour of the whole-time system was supported by Dr. W.H. Howell, Professor of Pediatrics. Dr. Howell took exception to Osler's letter addressed to Remsen and sided with the laboratory men.

If the clinical men have been able to carry out a successful private practice and earn handsome incomes and in the little time left have contributed to medical science work of more value than those who have given all their time to such labors - why, it is evident that the laboratory men are a mediocre lot or the clinical men are a set of geniuses. I don't accept your statement myself and in making it you have been, I believe, as unjust as you accuse Flexner of being toward the clinicians. ¹³³

Howell also expressed the fear generally held, that the Rockefeller funds will go to another institution if Johns

132. Albert W. Snoke, "The Teaching Hospital - Its Responsibilities and Conflicts," Journal of Medical Education, 35 (1965): 213.

133. Letter From Dr. W.H. Howell to Dr. Osler, October 5, 1911. Johns Hopkins University. An unpublished collection of "confidential reports, correspondence on the Johns Hopkins Medical School contained in the Osler Library (No.7651) in two volumes dated 1911 and 1913-14. p.2.

Hopkins does not agree to introduce whole-time clinical professorships and "we will be performing a second fiddle ten years hence."¹³⁴

Kelly continued to take a position against the new system and expressed the hope that Osler's letter will give "the coup-de-grace to any further efforts to disrupt our medical school."¹³⁵ Harvey Cushing the assistant resident surgeon also supported Osler's position and wrote to Osler: "Under present conditions, though overworked with administrative things I nevertheless feel that I am a free lance, whereas on the other basis I apprehend that it might be very easy to become enslaved by the institution and to be exploited by it."¹³⁶

Other professors have taken a middle position. Professor Rupert Norton, Professor of Forensic Medicine at Johns Hopkins agreed with Osler's view that the freedom for professors is most desirable, but also indicated that not

134. Ibid., p.1.

135. Letter From Professor Howard A. Kelly to Sir William Osler, September 24, 1911, An unpublished collection of "confidential reports, correspondence, etc., on the Johns Hopkins Medical School, contained in the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14. p.1.

136. Letter From Dr. Harvey Cushing To Sir William Osler, December 16, 1913. An unpublished collection of "confidential reports, correspondence on the Johns Hopkins Medical School contained in the Osler Library (No. 7651) in two volumes dated 1911 and 1913-14. p.1.

"many professors in medical schools have a real influence in the community at large or with the profession I fear The Virchows, Welchs and Oslers are the rare aves."¹³⁷ Although Norton's letter supported Osler in general terms, the Professor of Forensic Medicine was not against the whole-time idea.

While some faculty members thought full-time professorships will be depersonalizing and destroy human relationships, Welch did not accept this appeal to emotions: "We attach too much importance to personality versus scholarly achievement."¹³⁸ Welch, who was the most influential professor at Johns Hopkins, after Osler's departure, acknowledged Osler's letter to President Remsen, indicating that his mind is not made up as yet, "I am doing a great deal of thinking and trying to get light."¹³⁹

For the next few years Welch became a fence sitter, and he did not take a definite position. He knew

137. Letter From Professor Rupert Norton to Dr. Osler, October 1, 1911. An unpublished collection of "confidential reports correspondence" on the Johns Hopkins Medical School contained in the Archives of the Osler Library (No. 7651) in two volumes dated 1911 and 1913-14. pp.1-2.

138. Fleming, p.168.

139. Chesney, 3:186.

that the system can be only introduced with the whole-hearted support of the faculty and as a true diplomat, Welch did not promote the idea of whole-time in order to avoid interference with the daily activities of the university. The question, nevertheless, came to the fore in the following year in connection with the employment of Dr. von Pirquet, Professor of Pediatrics from the University of Vienna. The University - as indicated by Welch's letter to Gates, - was anxious to have this distinguished physician on its staff. "von Pirquet is the one man we desire above all others. He stands at the front, as his present position indicates." von Pirquet was more than happy to become a full-time professor and was prepared to accept the condition that he "not engage in private practice ... (and) be paid a salary sufficient to enable him to do this."¹⁴⁰ von Pirquet, however, stipulated that all his fees from private consultations should go to the development of his own department.

In spite of an agreement in principal, von Pirquet did not become professor at Johns Hopkins. Osler's hypothesis was proven correct. A doctor with von Pirquet's

140. Ibid., 3:201.

reputation was not prepared to work on a full-time basis for the \$7,500.00 salary offered to him. But even with funds from the Rockefellers, the University could not make a commitment for a higher salary.

In spite of the great debate, Osler was still considered a member of the Johns Hopkins family and was invited to the opening of the Henry Phipps Psychiatric Clinic which took place in April 1913. Osler came from England, was the guest of honor and gave a speech on "Specialism (sic) in General Hospital." Osler was diplomatic enough, however, not to belabor the question of whole-time professorships as he did not want to stir up a hornet's nest.¹⁴¹

During February and March 1913, the Trustees of the University entered into an agreement with the General Education Board, accepted the endowment and obligated themselves to introduce full-time professorships in the Departments of Medicine, Surgery and Pediatrics. In the beginning the Department of Obstetrics and Gynecology was not included in the scheme.

141. Ibid., 3:237.

On October 25, 1913 the Baltimore newspapers analysed the changes at Johns Hopkins and concluded that "Gift to Hopkins Means Loss To Faculty Head."¹⁴² Another article of the same date referred to Dr. Barker's speech in 1901 suggesting whole-time professorship under the title "Dr. Barker's Dream Comes True In Gift."¹⁴³ Although Barker was anxious to become professor of medicine on a full-time basis, he learned with disappointment about the unsatisfactory salary offered by the Trustees. He indicated that although

he adhered in principal to the full-time scheme which he had espoused and publicly advocated in 1902, nearly twelve years previously, His personal situation, however, had changed considerably in the meantime, and ... he felt under the necessity¹⁴⁴ of making provision for his family.

Before declining the position officially, Barker wrote to Osler on this subject in a letter dated November

142. "Gift To Hopkins Means Loss to Faculty: Must Give Up Private Practice Or Turn Fees Into General Fund." The Baltimore News, October 25, 1913. p.1.

143. "Dr. Barker's Dream Comes True In Gift," The Baltimore News, October 25, 1913. p.4.

144. Chesney, 2:256.

18, 1913. He stated that "I, too, favor research professorships in the clinic but the headship of the departments would, I think, be better in the hands of part-time men as a rule."¹⁴⁵

A few months later, Thayer also refused to accept the whole-time chair^{*} offered at a salary of, \$10,000.00.¹⁴⁶ So Osler's words came to haunt the Board of Trustees who could not find a physician of high standing to fill the position of professor of medicine, in spite of the fact that they have increased the salary from \$7,500.00 to \$10,000.00.¹⁴⁷ Barker stayed on as Professor of Medicine on a temporary basis until 1914. After the appointment of Theodore Janeway as whole-time professor, Barker stayed on and held the title of Professor of Clinical Medicine, signifying that he was a part-time man.

145. Letter From Dr. Lewellys F. Barker to Dr. Osler, November 18, 1913. An unpublished collection of "confidential reports, correspondence, etc., on the Johns Hopkins Medical School contained in the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14.

146. Letter From Dr. Lewellys F. Barker to William Osler, April 8, 1914. An unpublished collection of "confidential reports, correspondence, etc., on the Johns Hopkins Medical School contained in the Osler Library (No. 7651) in two volumes dated 1911, and 1913-14.

147. Chesney, 3:256,262,264.

Eventually the Board of Trustees had to consider the question of fees charged by whole-time professors to their private patients. After examining the problem, a special committee recommended to the Trustees of the Hospital that

bills for services of physicians or surgeons to private patients in the Johns Hopkins Hospital shall be made out on the physician's bill form and first sent to the Hospital, where they will be recorded and forwarded promptly to patients; unless the Committee should consider it desirable to discuss the bill with the physician first. Once the bill has passed the Hospital, the matter from that time on would be entirely between the physician and his patient. 148

This system left the amount of the professional fee to be charged to the patient in the hands of the professor - with the proviso that the hospital retains controlling authority - and it involved the hospital in the billing process. According to Chesney, the purpose of this procedure was to control the fees of the professors. Osler was proven correct when he indicated the need to control the fees of the professors and the forgoing shows that supervision was also required under the whole-time system, even though the fees did not

148. Ibid., 3:266.

go to the attending physician. During the re-organization of the clinical departments the last appointment was that of Dr. Edward G. Janeway who became Professor of Medicine. As Janeway was from New York and spent many years at various hospitals in New York City, his appointment was written up in The Evening Post (of New York) on April 29, 1914.¹⁴⁹ This newspaper article gave an accurate summary of the objectives of full-time professorships and surveyed its history at Johns Hopkins. After analysing the introduction of the whole-time system in the pre-clinical departments, the journalist dealt with the creation of full-time chairs in the clinical departments. The author reviewed the conditions of the one and one-half million dollar endowment, obtained from the General Education Board. Considering that the full-time concept was quite new, the reporter did a thorough job in explaining the conditions of employment of the whole-time clinical professor who had to forgo all income from his private patients and was compensated only by a salary from the university. The article emphasized that while the revenue

149. "Full-Time Medical Professors," The Evening Post, April 29, 1914. p.7.

of the whole-time clinical professor is limited, he is, nevertheless, allowed to offer services to the general public, warranted by humanitarian or scientific reasons.¹⁵⁰

The author correctly expressed the view, that the whole-time system did not limit the professor's privilege to have private patients but only his right to keep the professional fees.

Shortly after the appointment of Janeway, assistant professors were also appointed and the staff was divided into two: "university staff," indicating that they were full-time professors and "clinical staff," implying that these professors were not on full-time contracts and were allowed to have a private practice and keep the fees earned. In conjunction with this new terminology, new positions were created. The titles "Professor of Clinical Medicine," "Associate of Clinical Surgery" indicated that the appointment was not on a full-time basis."¹⁵¹ Similar titles were suggested by Osler in 1896. He created the title "Clinical Professor," implying that the professor was not engaged

150. Ibid.

151. Chesney, 3:258.

on a full-time basis.¹⁵²

In his later years, Osler pronounced himself in favour of full-time professorships. The first sign of Osler's approval of the full-time concept was an obituary that appeared in 1917 in The Lancet, upon the death of Dr. Janeway. In his tribute Osler stated that "Professor Janeway, while at Hopkins had revealed rare constructive ability and a keen capacity for research, thus combining all the elements for a successful whole-time teacher."¹⁵³ It could be argued that Osler did not really change his mind, but concluded that professors with exceptional ability could overcome the limitations of the system.

A few years later, in 1919, Osler wrote a "Circular Letter to Friends in Montreal" and addressed it to "The Dean of the Medical Faculty, McGill College." In this letter Osler suggested "a new department is needed which will involve change of heart as to methods etc."

152. Ibid., 2:93. This title is based on the misuse of the word "clinical" derived from the Greek word κλινη, meaning bed. It therefore refers to the treatment of the sick in bed, but does not relate to the appointment of a professor either on a full-time or part-time basis.

153. William Osler, "Theodore C. Janeway, Obituary Notice," The Lancet 1 (January 1918):80.

and recommended that a full-time man be appointed to head each clinic.¹⁵⁴ Osler was concerned, that without a full-time clinical faculty McGill will "fall behind other first class schools." He also proposed a salary of \$10,000.00 for the whole-time professors. Considering the inflation that took place during World War I, a salary of \$10,000.00 in 1919 was hardly more than \$7,500.00 mentioned in the Flexner Report eight years earlier.

Several years after Osler's death, his letter was scrutinized and the question raised whether Osler actually changed his mind during the last year of his life or simply moved with the times. The answer may be found in a letter dated March 26, 1936 from Dr. William Willoughby Francis, the Osler Librarian, addressed to Dr. Harvey Cushing. In it, Dr. Francis concluded that Osler's sentiments towards whole-time professorship did not really change but "when he saw it was inevitable he loyally did his best to encourage the new scheme at

¹⁵⁴ William Osler, "Circular Letter to Friends In Montréal," Quoted in Bulletin No. IX of the International Association of Medical Museums, Sir William Osler, Memorial Number, Appreciations and Reminiscences, Montréal, privately issued, 1962, p.591.

Hopkins and McGill and elsewhere."¹⁵⁵

In any event, during the years after Osler's death, "full-time clinical teaching became more and more popular. In 1925 Flexner reported that there were more than thirty whole-time clinical chairs in the United States, Canada and Great Britain."¹⁵⁶ Throughout the years, the concept of whole-time clinical professorship was continually considered by eminent medical educators. In a speech, on the occasion of Abraham Flexner's eightieth birthday, Alan Gregg, a member of the Rockefeller General Education Board summarized the evolution of whole-time teaching.

Full time, like a plaster cast, was applied in overcorrection of the abuses of part-time teaching. Some pressure sores developed, but when the casts were removed, the functional results were excellent. Or, to avoid argument by analogy, it may be said, ... that if the financial burden of full time can be met, those who have experienced it will not forsake it or wish to see it given up. ¹⁵⁷

In Canada, the first full-time pre-clinical

155. Pruitt, p.310

156. Norman M. Keith, M.D., "William Osler at Oxford: A Reappraisal," Archives of Internal Medicine 106 (September 1960): 198.

157. Ibid.

chairs were established in 1910 at Winnipeg and in 1911 at Dalhousie University. The first full-time professorship in a clinical department in Canada was the chair of medicine at the University of Toronto, established at the end of World War I. In 1921 another full-time chair was created in surgery at the same time school. In 1924 full-time clinical professorship was introduced at McGill.¹⁵⁸

Full-time clinical professorship was an idea whose time had come. By the 1953-54 school year, "there were fifty-seven full-time teachers in Canadian clinical departments and by 1961-62 three hundred and ninety-one teachers in these categories."¹⁵⁹ Nevertheless, according to the MacFarlane Report, published in 1965, Canada was far behind in the appointment of full-time clinical professors. The authors of the Report felt that this was primarily due to lack of funds, more readily available in the United States.¹⁶⁰

158. MacFarlane, p.21.

159. Ibid., p.22.

160. Ibid., p.23.

Although the numbers of full-time clinical professors grew very fast after World War II, their income did not keep up with the general level of salaries. The last year dealt with the MacFarlane Report which gave statistical information for 1962 and indicated that the remuneration for full-time professors varied from a low of \$11,000.00 to a high of \$18,000.00.¹⁶¹ These salaries were very low, compared to the income level of the whole population. The salaries of the full-time geographical professors did not even keep up with the inflation that took place after World War II.

The authors of the MacFarlane Report thought that in addition to the nearly 400 full-time professors in Canada, another fifty full-time clinical chairs should be established at Canadian schools, if funds could be found to finance them.

The problem of financing the full-time clinical chairs was considered in depth by the MacFarlane Report.

161. Ibid., p.95

The authors state that

in most medical schools approximately half of the costs per year go to the payment of salaries of physicians and other staff who work full-time in the hospitals of the community. In addition to doing teaching and research they are responsible for running the hospital services, that is, the department of surgery, the department of medicine, department of psychiatry, etc. The salaries of these individuals and of their supporting staff, secretaries, technicians, librarians, and the like must come entirely from university sources of funds although they are spending approximately 50 per cent of their time doing hospital work. ¹⁶²

In view of the high cost of the full-time clinical system, the Report carefully considered the attributes of the professors appointed to these full-time chairs. The authors of the Report realized that "the development of a clinical teacher cannot be readily reduced to a formula."¹⁶³ They felt that not every doctor is qualified to become a good teacher.

The recommendation of the Commission members concluded that "In Canada the laboratory in the basic sciences and bedside teaching in the clinical field are

162. Ibid., p.110.

163. Ibid., p.146.

deemed of greater importance" than giving lectures while "In the United States great emphasis is being placed upon the value of providing the undergraduate student with research experience."¹⁶⁴ But Osler's doubts about the problems associated with the geographical full-time system were not solved by the time the Report was compiled. Its authors could not determine "what proportion of ... a teacher's time is spent in teaching, patient care, university administration, hospital administration, and in work related to other community activities which his position demands."¹⁶⁵

Jetté's survey of clinical departments is a good source for a student of the Quebec situation in the mid-1960's, analysing the geographical full-time question. This work, written in 1968, dealt with the whole-time geographical professorships in depth. At the four universities considered by Jetté, the base salaries varied between \$9,600.00 and \$10,800.00,¹⁶⁶ regardless of whether it was paid by the hospitals

164. Ibid.

165. Ibid., p.147

166. Jetté, p.70.

or by the university. However, even after half a century, Jetté is troubled by the same question as Osler.

If a man's value in the open market is to be considered, do not insult him by offering \$7,500.00 as suggested in Alternative Scheme I, but, as laboratory men, let them be content with salaries which are thought good enough for men just as good. ¹⁶⁷

Jetté quotes Sloan to the effect that full-time professors are entitled to compensation comparable to that of their fellows, engaged in private practice. ¹⁶⁸

Jetté found that at all universities and hospitals there is "un plafonnement," ¹⁶⁹ which limits the maximum income of the full-time professor. Usually the maximum allowable earning was about 150% of the combined salary he received from the university and the hospital. ¹⁷⁰ In his research, Jetté found that the remuneration of full-time professors was a most contentious

167. Osler, Whole-Time Clinical Professors, A Letter To President Remsen, September 1, 1911, pp.12-13.

168. Jetté, p.20.

169. Ibid., p.71.

170. Ibid., p.21.

issue. He therefore suggested that there be a uniform ceiling for each professor, equivalent to twice his base salary.¹⁷¹

However, just as there was never a uniform base salary established for the full-time clinical professors, a uniform ceiling was also a utopian objective. The last revision of the "Memorandum on The Terms of Employment of Teachers in Clinical Departments of McGill" was prepared in August 1977. It indicates that the geographical full-time professors of the clinical departments are appointed in conjunction with their functions as heads of departments at affiliated hospitals and the salary from the university, the hospital and from the private practice is subject to individual negotiation. The only uniformity achieved relates to fringe benefits, e.g. insurance and pension schemes. Otherwise each contract is designed on an individual basis.¹⁷²

171. Ibid., p.71.

172. L. Yaffe, Vice Principal (Administration), "Memorandum on The Terms of Employment of Teachers in Clinical Departments of McGill." McGill University, Montreal, August 1977.

The trend today is towards a dual system, in which full-time professors are permitted to see private patients, although the professors' total income is limited by the university. This arrangement attempts to combine the advantages of the full-time system with the one advocated by Osler. While the professor has an opportunity to act as a consultant and have his own private patients, due to the ceiling on his earnings, he cannot benefit unduly from the extra revenue.

CONCLUSION

Direct involvement of the student in the educational process is of paramount importance. "Since World War II, one of the most popular sayings about the learning of young people has been: 'What I hear, I forget. What I see, I remember. What I do, I understand'.¹" Half a century earlier, at a very early stage in his teaching career, Osler reached the same conclusion and introduced his "natural teaching method".² Osler did not rely on lectures but took his students out from the lecture-hall. He guided them to the wards and clinics, where the students learned through observation.

While Osler's technique of teaching was an innovation in his field, he did not stand alone in the general educational context. According to Dewey's definition, "Progressive Education(is) a common disposition to build upon the nature and experience of the boys and girls instead of imposing from without external subject-matter and standards."³ Osler was indeed a progressive educator, promoting daily contacts

1. Sir Alec Clegg, Revolution in the British Primary Schools. Quoted by Charles E. Silberman, (Editor), The Open Classroom Reader, (New York: Vintage Books, 1973), p. 66.

2. William Osler, "The Natural Method of Teaching the Subject of Medicine," The Journal of the American Medical Association 36 (June 1901).

3. John Dewey, "Progressive Education and the Science of Education," Progressive Education: vol. 5. Quoted by Silberman. p. 129.

between his students and their patients, and providing the student-doctors with an ideal experience to advance their knowledge. Osler's views on practical experience would be supported by progressive educators, who do not consider learning "as a reception of knowledge" nor knowledge itself as "an abstract substance that the teacher loads in the minds of his pupils."⁴

Dewey, in Democracy and Education, gives credit for the development of his own method to the experimental sciences. "The most direct blow at the traditional separation of doing and knowing (is due to) the progress of experimental science."⁵ Based on advances in the experimental sciences, Dewey came to the conclusion "that there is no such thing as genuine knowledge."⁶ In Dewey's theory all knowledge must flow from practical knowledge. Dewey also called for a "living experiment in the classroom,"⁷ just as fifteen years earlier, in the context of medical education, Osler wanted his students to gain experience through observation of the patients.

4. George F. Kneller, Introduction To The Philosophy of Education, (New York: John Wiley and Sons, Inc., 1964), p. 50.

5. John Dewey, Democracy and Education: An Introduction to the Philosophy of Education, (New York: The MacMillan Company, 1916), p. 321.

6. Ibid.

7. Kneller, p. 50.

Osler realized that a university has two main functions, teaching and thinking.⁸ He felt that in addition to the transmission of a body of knowledge developed in the past, university professors must strive to teach their students to think and thereby enable them to create new knowledge, based on a combination of observation and thinking.

In order to introduce his revolutionary reforms, Osler had to change teaching methods that were used for several decades all over the world. "To change long established habits in the individual is a slow, difficult and complicated process. To change long-established institutions is a much slower, more difficult and far more complicated process."⁹ Osler's success was due to the fact that Johns Hopkins University was a new institution, without rigidly established traditions. While Osler's method was new, he did not have to change a system already in existence. Nevertheless, students at Johns Hopkins had to adjust to Osler's method and he was most intolerant of those who resisted change. "Everywhere the old order changeth and happy those who can change with it."¹⁰

8. William Osler, "Teaching and Thinking: The Two Main Functions of a Medical School," Montreal Medical Journal 23 (1894-5):562..

9. Silberman, p. xv.

10. Sir William Osler, Aequanimitas: With Other Addresses to Medical Students, Nurses and Practitioners of Medicine, (Philadelphia: The Blakiston Company, 1914), p. 127.

While Osler was at the forefront of reforms in order to improve medical education, he favoured the status quo in the controversy concerning full-time clinical teaching. Osler was not against full-time professorship because he was afraid of change. His attitude was a direct result of his educational theory, that called for personal experience. Osler wanted the clinical professors to be exposed to a varied and broad experience, that could only be gained by physicians, who were active members of their communities. Osler thought that professors, in addition to their duties as teachers and researchers, should involve themselves in all problems surrounding them. In his view, this could best be achieved by serving as medical consultants to the prominent members of society.

It may be presumptuous on the part of a graduate student in education - without any background in medicine or specialization in medical education - to find an answer to the full-time question, a problem debated for the past century by the greatest minds in medical education. In the 1970's, especially in Canada, the circumstances impose their own solution. Not only is the concept of full-time clinical professorship generally accepted, but the constantly increasing involvement of government in medical and educational matters creates its own limitations. The increasing socialization of medical care and the overwhelming intervention of the state in educational questions has established an irreversible trend.

The full-time clinical question requires a middle of the road approach: under the circumstances no dogmatic answers are justified. In spite of the scientific manifestations of the dilemma, an emotional approach is called for. During the past century the emphasis was on the potentially excessive earnings of the professors, to the detriment of the execution of their professional duties.¹¹ It seems, however, that confidence must be placed in the integrity of the professors. From the 37297¹² practicing physicians in Canada only a small percentage is chosen to serve in the clinical teaching posts. In addition to their competence as doctors, the professors must also have the attributes of competent teachers and a reputation for integrity, to be chosen by their peers and confirmed by the board of governors of the universities. These selected few will be conscious of the moral obligation imposed on them by their appointment.

While the desire for money may induce a few professors to spend too much time on private patients and cause them to neglect their research and educational functions, peer pressure would certainly guide them to the proper course.

In Canada, with the advent of Medicare, the income of all doctors is automatically limited. The days when a surgeon could

11. See page 109 of thesis.

12. Canada Year Book, (Ottawa: Statistics Canada, 1976-77), p. 245.

charge \$10,500.00 for a gallstone operation as Halsted¹³ did, are gone forever. Charges by doctors for professional services are controlled by the government and the maximum earned by any one physician is scrutinized by the competent authorities, using computerized sampling techniques. The trend toward socialized medicine will also accelerate in the United States and within a decade they will also have a Medicare system, similar to the one we have in Canada.

The writer thinks that within the framework of the full-time clinical system, due to governmental supervision of medical fees, a limitation on the income of the clinical professors is automatic and therefore the number of instances showing deviation from desirable standards can hardly be significant. Therefore, in Canada, in the 1970's, the ideal appears to have clinical professorial appointments on a geographical full-time basis, i.e., having the office of clinical physician restricted to the university or the hospital. This limitation would curb the doctor's business expenses and thereby remove another incentive for excessive income from private patients. If practice is limited to the confines of the hospital, it may hardly be necessary to place ceilings on the professor's earnings.

13. Donald G. Bates and Edward H. Bensley, (eds.), "William Osler's, "The Inner History of The Johns Hopkins Hospital," Johns Hopkins Medical Journal 125 (October 1969): 191.

The teaching duties of the clinical professor, coupled with supervision and instruction of medical students and the treatment of scientifically interesting patients will take up most of the working time of the professors and therefore "private practice" without any scientific significance will be limited to a few hours a day, due to lack of time.

Apparently Osler's method may be the ideal solution, even today. The morning and early afternoon should be spent on teaching and research functions and a few hours set aside at the end of the day to see private patients.¹⁴ Indeed, after attending to the various duties enumerated, the professor has hardly any time left for patients, who only represent another dollar bill to the professor. Excessive professorial income may have been typical of the pre-Medicare system. Today, however, the all-embracing governmental supervision limits the earnings of every doctor, even those in private practice, by establishing a predetermined fee for the various medical acts.

In today's context, due to changed socio-economic and political conditions, the income of the professors is automatically restricted and there is hardly any need for limiting the private practice of the full-time clinical professors.

14. William Osler, Whole-Time Clinical Professors. Letter from Sir William Osler to President Ira D. Remsen, President, Johns Hopkins University. Dated September 1, 1911. Family letter, strictly confidential and not for publication. From an unpublished collection of "confidential reports, correspondence, etc., on the Johns Hopkins Medical School including original draft of letter to Remsen," contained in the Osler Library (No. 7651) in two volumes dated 1911 and 1913-14. pp. 10-11.

BIBLIOGRAPHYBOOKS

- Abbott, Maude E., M.D., Editor. Bulletin No. IX of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences. Montreal: Privately Issued, 1926.
- Abrahams, Harold J. The Extinct Medical Schools of Baltimore, Maryland. Baltimore: Maryland Historical Society, 1969.
- Arnold, Matthew. Higher Schools and Universities in Germany. London: Macmillan and Co., 1874.
- _____. Schools and Universities on the Continent. Ann Arbor: The University of Michigan Press, 1964.
- Barbour, M.D., Orville. The Life of Sir William Osler. Peoria Illinois, Published by the author in pamphlet form. 1933.
- Bett, W. R. Osler: The Man And The Legend. London: William Heinemann Medical Books Ltd., 1959.
- Bonner, Thomas Neville. American Doctors and German Universities: A Chapter in Intellectual Relations: 1870-1914. London: University of Nebraska Press, 1963.
- Bordley, James, III, M.D., and Harvey, A. McGehee, M.D. Two Centuries of American Medicine: 1776-1976, Philadelphia: W. B. Saunders Company, 1976.
- Brereton, Cloudesley. Studies in Foreign Education: With Special Reference to English Problems. Boston: Houghton Mifflin Company, 1913.
- Canada - Department of Labour: Wages and Hours of Labour in Canada, 1901-1920. Ottawa: Thomas Mulvey Printer to the King's Most Excellent Majesty, 1922.
- Chesney, Alan M., M.D. The Johns Hopkins Hospital and The Johns Hopkins University School of Medicine - A Chronicle: Early Years: 1867-1893. 3 vols. Baltimore: The Johns Hopkins Press, 1943.
- Cushing, Harvey, The Life of Sir William Osler. London: Oxford University Press, 1940.

- Dewey, John. Democracy and Education: An Introduction to the Philosophy of Education. New York: The MacMillan Company, 1916.
- Fleming, Donald. William H. Welch and the Rise of Modern Medicine. Boston: Little Brown and Company, 1954.
- Flexner, Abraham. Daniel Coit Gilman: Creator of the American Type of University. New York: Harcourt, Bruce and Company, 1946.
- _____. I Remember. New York: Simon and Shuster, 1940.
- _____. Medical Education in Europe. Bulletin No. 6 Carnegie Foundation for the Advancement of Teaching. New York: D.B. Updike, The Merrymount Press, 1912.
- _____. Medical Education In The United States And Canada: A Report To The Carnegie Foundation For Advancement of Teaching. New York City: The Carnegie Foundation for the Advancement of Teaching, 1910.
- _____. Report on the Johns Hopkins Medical School. Confidential Report for the Consideration of the Chairman of the Administrative Committee of the Johns Hopkins Medical School. Baltimore, Maryland, From the Archives of the Osler Library, McGill University, Montreal, 1910.
- _____. The American College: A Criticism. New York: The Century Company, 1908.
- Flexner, Simon, and Flexner, James Henry. William Henry Welch and the Heroic Age of American Medicine. New York: Viking Press, 1941.
- French, John C. A History of The University Founded By Johns Hopkins. Baltimore: The Johns Hopkins Press, 1946.
- Haines, George, IV. German Influence Upon English Education and Science, 1800-1866. New London, Connecticut: Stonington Publishing Company, Inc., 1957.
- Harvey, A. McGehee, and McKusick, Victor A. Osler's Textbook Revisited. New York: Appleton-Century-Crofts, 1967.
- Hofstader, Richard, and Metzger, Walter P. The Development of Academic Freedom In The United States. New York: Columbia University Press, 1957.
- Holley, Howard L. A Continual Remembrance, Letters From Sir William Osler to his Friend Ned Milburn, 1865-1919. Springfield, Illinois: Charles C. Thomas, 1968.

- Jaspers, Karl. The Idea of the University. London: Peter Owen, 1959.
- Jetté, Yves. Le Plein Temps Géographique Dans Les Hôpitaux D'Enseignement De La Province de Québec. Montreal: W.K. Kellogg Foundation, 1968.
- Kneller, George F. Introduction To The Philosophy of Education. New York: John Wiley and Sons, Inc., 1964.
- Lilge, Frederic. The Abuse of Learning: The Failure of the German University. New York: The MacMillan Company, 1948.
- MacFarlane, J.A. and Dickson, R.C. and Dufresne, Roger and Ettinger, Harold, et al., Medical Education in Canada - Royal Commission on Health Services. Ottawa: Queen's Printer, 1965.
- McGovern, John P., M.D., and Nation, Earl, M.D., and Roland, Charles G., M.D. An Annotated Checklist of Osleriana. Edinburgh, Scotland: The Kent State University Press, 1976.
- McGovern, John P., M.D., and Roland, Charles G., M.D. (Eds.). Wm (sic) Osler: The Continuing Education. Springfield, Illinois: Charles C. Thomas, 1969.
- Osler, William. Aequanimitas: With Other Addresses to Medical Students, Nurses and Practitioners of Medicine. Philadelphia: The Blakiston Company, 1906.
- . The Principles And Practice of Medicine: Designed For The Use of Practitioners And Students of Medicine. New York: D. Appleton and Company, 1909.
- . The Principles and Practice of Medicine: Designed For the Use of Practitioners and Students of Medicine. Edited by H. A. Christian. New York: Appleton Century, 1947.
- Paulsen, Friedrich. German Education: Past and Present. London: T. Fisher Unwin, 1908.
- Perkins, James A. The University in Transition. Princeton, New Jersey: Princeton University Press, 1966.
- Pratt, Joseph H. A Member of the Class of 1898. A Year With Osler 1896-1897: Notes Taken at His Clinics in the Johns Hopkins Hospital. Baltimore: Johns Hopkins Press, 1949.
- Reid, Edith Gettings. The Great Physician: A Short Life of Sir William Osler. London: Oxford University Press, 1931.

Shryock, Richard H. The Unique Influence of the Johns Hopkins University on American Medicine. Copenhagen: Ednar Munksgaard, Ltd. 1953.

Silberman, Charles E. (Editor). The Open Classroom Reader. New York: Vintage Books, 1973.

Thwing, Charles Franklin. The American and the German University: One Hundred Years of History. New York: The MacMillan Company, 1928.

White, Paul Dudley. Editor. Sir William Osler: Acquanimity And Other Papers That Have Stood the Test of Time. New York: W.W. Horton and Company, Inc., 1963.

Wilkinson, Anne. Lions In The Way: A Discursive History of The Oslers. Toronto: The MacMillan Company of Canada Limited, 1956.

ARTICLES

- Abbott, Maude E. "Osler's Pathological Collections and His Literary Output." The Canadian Medical Association Journal 42 (March 1940): 284-288.
- Austen, W. Gerald, M.D., and Kinney, Thomas D., M.D., "The Content of Undergraduate Medical Education." in Graves, Judy (Ed.). The Future of Medical Education. Durham, North Carolina: Duke University Press. 1973: pp. 71-86.
- Ball, Otho, M.D. "Sir William Osler." The Modern Hospital 75 (November 1950): 84-85.
- Barker, Lewellys F., M.D. "Medicine and Universities." American Medicine 4 (1902): 143-47.
- . "Osler in America: With Especial Reference To His Baltimore Period." The Canadian Medical Association Journal 33 (October 1935): 353-359.
- Barnett, Crawford F., Jr. "Sir William Osler: Author, Clinician, Teacher Extraordinaire." The New Physician 12 (May 1963): A-56-A-57.
- Bates, Donald G., M.D., and Bensley, Edward H., M.D. (eds.), "William Osler's, The Inner History of the Johns Hopkins Hospital." Johns Hopkins Medical Journal 125 (October 1969): 184-194.
- Bean, William B., M.D. "Osler, the Legend, the Man and the Influence." Canadian Medical Association Journal 95 (November 1966): 1031-1037.
- Bensley, E.H., M.D. "Osler Being Dead Yet Speaketh." McGill Medical Journal 30 (December 1960): 163-166.
- Blackader, A.D. "Osler's Montreal Days." The Canadian Medical Association Journal, Sir William Osler, Memorial Number (July 1920): 28-34.
- Boggs, Thomas R. "Osler As A Bibliophile." Johns Hopkins Hospital Bulletin 30 (July 1919): 216.

- Brush, Edward N. "Osler's Influence On Other Medical Schools in Baltimore And His Relation To The Medical Profession." Johns Hopkins Hospital Bulletin 30 (July 1919): 208-209.
- _____. "Osler's Literary Style." Johns Hopkins Hospital Bulletin 30 (July 1919): 217-233.
- Burr, Charles W. "Sir William Osler As A Man of Letters." The American Journal of the Medical Sciences 159 (May 1920): 625-630.
- Cameron, Thomas, W.M. "Sir William Osler - Parasitologist." Canadian Medical Association Journal 30 (May 1934): 553-556.
- Cattell, Henry W., M.D. "Osler, The Medical Editor." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 91-93.
- Cole, Rufus, M.D. "Dr. Osler: Scientist and Teacher." Archives of Internal Medicine 84 (July 1949): 53-63
- Davidson, Wilburt C., M.D. "Sir William Osler: Memories." Virginia Medical Monthly 77 (June 1950): 271-272.
- Emerson, Charles P. "Reminiscences of Sir William Osler." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 294-303.
- Finney, J.M.T., M.D. "A Personal Appreciation of Sir William Osler." Bulletin of The International Association of Medical Museums and Journal of Technical Methods Sir William Osler Memorial Number, Appreciations and Reminiscences (January 1926): 2013-2019.
- Francis, W.W., M.D. "The Osler Family." British Medical Journal 2 (July 1949): 74-84.
- Freese, Arthur S. "He Was Family Doctor To The World." Today's Health 46 (June 1968): 38-41.
- Gordon, A.H. "Acute Endocarditis." The Canadian Medical Association Journal 42 (February 1940): 182-194.

- Gwyn, Norman B. "The Early Life of Sir William Osler, his Cultural and Scientific Training." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 109-149.
- Hare, Hobart Amory, M.D. "William Osler, As A Teacher And Clinician In Philadelphia." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 212-217.
- Hinsey, Joseph C. "Full-Time Clinical Faculty: An Interpretation of the Problem As It Concerns Medical School Administration." Journal of the American Medical Association 162 (September 1956): 14-25.
- Holman, Emile, M.D., "Osler and Halsted, A Contrast In Personalities," in McGovern, John P., M.D. and Burns, Chester R., M.D. (Eds.). Humanism in Medicine. Springfield, Illinois: Charles C. Thomas. 1973. pp. 21-29.
- _____. "Sir William Osler: Teacher and Bibliophile." The Journal of the American Medical Association 210 (December 1969): 2223-2225.
- Horder, Lord, M.D. "My Association With Osler." British Medical Journal 2 (July 1949): 47.
- Howard, R. Palmer, M.D. "The Men Who Inspired William Osler." in McGovern, John P., M.D. and Burns, Chester R., M.D. (Eds.). Humanism in Medicine. Springfield, Illinois: Charles C. Thomas. 1973. pp. 41-48.
- Howell, William H. "The Medical School as Part of the University." Science 30 (1909): 129-136.
- Hubble, Sir Douglas, M.D. "William Osler and Medical Education." Journal of the Royal College of Physicians of London 9 (April 1975): 269-278.
- Hutchison, Robert. "William Osler." Quarterly Journal of Medicine 18 (October 1949): 275-277.
- Jacobs, Henry Barton. "Osler As A Citizen And His Relations To The Tuberculosis Crusade in Maryland." Johns Hopkins Hospital Bulletin 30 (July 1919): 205-208.

- Keen, W.W. "A Tribute To Sir William Osler." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 248-250.
- Keith, Norman M., M.D. "William Osler at Oxford: A Reappraisal." Archives of Internal Medicine 106 (September 1960): 443-454.
- Kelly, A.D., M.D. "Organization Man". The Canadian Journal of Surgery 13 (October 1970): 335-340.
- Knoff, S. Adolphus, M.D. "Osler and the Anti-Tuberculosis Movement: Personal Reminiscences." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 323-329.
- MacCallum, W.G. "A Student's Impression of Osler." Canadian Medical Association Journal, Memorial Number, Sir William Osler (July 1920): 47-50.
- MacKenzie, Kenneth A., M.D. "Sir William Osler (1849-1919) A Great Canadian." Nova Scotia Medical Bulletin 29 (1950): 1-5.
- MacNalty, Sir Arthur Salusbury, M.D. "Some Reminiscences of Osler." The Medical Press 222 (July 1949): 27-29.
- Magnuson, Roger P. Personal Notes on Modern Universities. Faculty of Education, McGill University, Montreal. June 1978. pp. 1-8.
- Malloch, Archibald. "Sir William Osler At Oxford." The Canadian Medical Association Journal, Sir William Osler, Memorial Number 10 (July 1920): 51-53.
- Martin, C.F., M.D. "Osler As Clinician and Teacher." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 45-50.
- McCrae, Thomas, M.D. "The Influence of Pathology On The Clinical Medicine of William Osler." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 41-45.
- McIntyre, Neil. "Osler and Medical Education." Oslerian Anniversary. London: The Osler Club of London, 1976. 16-23.

- McMichael, J. "Osler: The Textbook and Education In Medicine." The Canadian Medical Association Journal 58 (January 1948): 84-89
- Newman, C.E. "Osler As A Physician." Oslerian Anniversary. London: The Osler Club of London, 1976: 9-15.
- "Obituary: Sir William Osler, Bart., M.D., LL.D, ETC." The Canadian Practitioner 45 (February 1920): 58.
- Osler, William, M.D., F.R.S. "A Note on the Teaching of the History of Medicine." The British Medical Journal 2 (July 1902): 47.
- . "Chauvinism in Medicine." in Aequanimitas and Other Papers That Have Stood the Test of Time, Edited by Paul Dudley White, M.D. New York: W.W. Norton and Company, 1963: 126-143.
- . "Examinations Examiners and Examinees." The British Medical Journal 12 (October 1913): 946-948.
- . "Intensive Work in School Science." Nature 96 (January 1916): 553-555.
- . "Introductory Lecture." Canada Medical and Surgical Journal 5 (1877): 204-10.
- . "Lectures on Angina Pectoris and Allied States." New York Medical Journal 64 (1896): 177-182, 281-284.
- . "Malignant Endocarditis." Lancet (1885): 415-418, 459-64, 505-8.
- . "On Full-Time Clinical Teaching in Medical Schools." Canadian Medical Association Journal 87 (October 1962): 762-765.
- . "On the Educational Value of the Medical Society." Boston Medical and Surgical Journal 148 (March 1903): 275-279.
- . "On the Hospital Unit in University Work." Northumberland and Durham Medical Journal 18 (1911): 178-189.
- . "Syphilis and Aneurysm." The Schorstein Lecture. British Medical Journal 2 (1909): 1510-1513.
- . "Teaching and Thinking: The Two Main Functions of a Medical School," Montreal Medical Journal 23 (1894-5): 562.

- . "The Anti-Venereal Campaign," Transactions of the Medical Society of London 40 (1917): 290-315.
- . "The Fixed Period," in Aequanimitas and Other Papers That Have Stood the Test of Time. Edited by Paul Dudley White, M.D. New York: W.W. Norton and Company, 1963: 193-205.
- . "The License to Practice," Maryland Medical Journal 21 (1889): 60-63.
- . "The Master Word In Medicine." The Montreal Medical Journal 32 (November 1903): 771-785.
- . "The Medical Clinic: A Retrospect and a Forecast." The British Medical Journal 1 (January 1914): 10-16.
- . "The Study of Fevers of the South." Journal of the American Medical Association 26 (1896): 1001-1004.
- . "The Natural Method of Teaching The Subject of Medicine." The Journal of the American Medical Association 36 (June 1901): 1673-1679.
- . "Theodore C. Janeway, Obituary Notice." The Lancet I (January 1918): 80-81.
- Penfield, Wilder. "Halsted of Johns Hopkins Hospital." Journal of the American Medical Association 210 (1969): 2214-2218.
- . "Osler's Voice," in McGovern, John P., M.D. and Burns, Chester R., M.D. (Eds.). Humanism in Medicine. Springfield, Illinois: Charles C. Thomas. 1973. pp. 34-40.
- Potter, Paul. "Sir William Osler: Man, Physician, Scientist." The University of Western Ontario Medical Journal 47 (November 1977): 2.
- Pruitt, Raymond D., M.D. Commentary on William Osler's "On Whole-Time Clinical Teaching in Medical Schools." in McGovern, John P., M.D. and Roland, Charles G., M.D. (eds.). Wm (sic) Osler: The Continuing Education. Illinois: Charles C. Thomas. 1969. pp. 301-314.
- Radin, Herman, T., M.D. "The Literary Flavor in the Writings of Sir William Osler." The Medical Pickwick 4 (August 1918): 294-296.
- Richards, Victor. "Full-Time Service Chiefs." in Eisele, C. Wesley (ed.). The Medical Staff in the Modern Hospital. New York: McGraw-Hill, 1963. pp. 138-144.

- Robbins, Benjamin H., M.D. "Sir William Osler the Pediatrician." American Journal of Diseases of Children 106 (December 1963): 124-129.
- Robertson, H. Locke, M.D. "Osler and B.C." The Bulletin of the Vancouver Medical Association 34 (April 1958): 356-363.
- Rodgers, Edmund J. A., M.D. "Personal Reminiscences of the Earlier Years of Sir William Osler." Colorado Medicine 17 (1920): 88-95.
- Roland, Charles G., M.D. "William Osler and Medical Journalism." The Journal of the American Journal Association 200 (May 1967): 386-390.
- Seely, John F. "Full-Time Clinical Teaching in America." McGill Medical Journal 30 (1961): 10-32.
- Shepherd, Francis J. "Always An Optimist." New York Medical Journal 111 (May 1920): 13-14.
- "Dr. Osler in Montreal." Dinner to Dr. William Osler Previous to his Departure for England to assume the Regius Professorship of Medicine in the University of Oxford. James Tyson - Chairman, Waldorf Astoria, May 2, 1905. (Privately printed, 1905): 6-9.
- Snoke, Albert W. "The Teaching Hospital - Its Responsibilities and Conflicts." Journal of Medical Education 35 (1965): 209-217.
- Steiner, Walter R., M.D. "Presidential Address 'Reminiscences of Sir William Osler As My Teacher And of my Hospital Experiences Under Him At Johns Hopkins.'" Transactions of the American Clinical and Climatological Association 50 (1935): 11-1xii.
- Symonds, Rev. H. "Memorial Sermon To The Late Sir William Osler, Bart., M.D., F.R.S. "Preached in Christ Church Cathedral, Montreal, January 18, 1920. The Canadian Medical Association Journal, Memorial Number, Sir William Osler (July 1920): 9-18.
- Talbot, John H. "Biographical Essay." Journal of the American Medical Association 12 (December 1960): 2269-2271.
- Thayer, William Sidney, M.D. "Osler, the Teacher." Johns Hopkins Hospital Bulletin 30 (1913): 198-200.

- Toulmin, Harry M., M.D. "Recollections of Sir William Osler." Bulletin of the International Association of Medical Museums and Journal of Technical Methods, Sir William Osler, Memorial Number, Appreciations and Reminiscences (January 1926): 231-232.
- Two Oxford Friends. "Sir William Osler and Oxford." The Canadian Medical Association Journal - Sir William Osler Memorial Number 10 (July 1920): 66-69.
- Welch, William H. "Memorial Speech." The Johns Hopkins Alumni Magazine 9 (1920): 305-306.
- Williams, Huntington, M.D. "Osler and Welch: Founders of Modern American Public Health." Virginia Medical Monthly 80 (June 1953): 303-312.
- Wright, H.P. "Osler, A Personal Tribute." The Canadian Medical Association Journal 61 (July 1949): 73-75.
- Yaffe, L. Vice Principal (Administration). "Memorandum on the Terms of Employment of Teachers in Clinical Departments." McGill University, Montreal, August, 1977.

Whole-Time Clinical Professors - Johns Hopkins Hospital, An unpublished collection of "confidential" reports, correspondence, etc., on the Johns Hopkins Medical School including original draft of letter to Remsen" contained in the Osler Library (No. 7651) in two volumes dated 1911 and 1913-14.

Personal Communication. Dr. Donald G. Bates, Professor of Medicine, McGill University, Montreal. July 25, 1978.

Personal Communication. Dr. Edward Horton Bensley, Emeritus Professor of Medicine, McGill University, Montreal. November 22, 1977.