



Education

Éducation

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This article has been peer reviewed.

CMAJ 1999;161(7):842-5

Oct. 5, 1999

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Did Osler suffer from “paranoia antitherapeuticum baltimorensis”?

A comparative content analysis of *The Principles and Practice of Medicine* and *Harrison's Principles of Internal Medicine*, 11th edition

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Abstract

ONE OF THE MOST IMPORTANT LEGACIES of Sir William Osler was his textbook *The Principles and Practice of Medicine*. A common criticism of the book when it was first published was its deficiency in the area of therapeutics. In this article, the 1st edition of *The Principles and Practice of Medicine* is compared with the 11th edition of *Harrison's Principles of Internal Medicine*. The analysis focuses on the treatment recommendations for 4 conditions that were covered in both books (diabetes mellitus, ischemic heart disease, pneumonia and typhoid fever). Osler's textbook dealt with typhoid fever and pneumonia at greater length, whereas Harrison's placed more emphasis on diabetes mellitus and ischemic heart disease. Notwithstanding Osler's reputation as a therapeutic nihilist, the 2 books devoted equivalent space to treatment (in terms of proportion of total sentences for the conditions). For all conditions except ischemic heart disease, Osler concentrated on general measures and symptomatic care. Throughout Osler's textbook numerous negative comments are made about the medicinal treatment of various conditions. A more accurate statement about Osler's therapeutic approach was that he was a “medicinal nihilist.” His demand for proof of efficacy before use of a medication remains relevant.

The English-language model for the modern medical textbook is Sir William Osler's *The Principles and Practice of Medicine*.¹ It is difficult to overstate the impact of this book on the medical world.²⁻¹⁵ A number of reviews of the textbook in its various editions have been undertaken during this century. These are in the main explorations of how Osler's treatment of given conditions changed over time or comparisons of his understanding of a given disease with ours.²⁻¹²

I performed a comparative content analysis of the first edition of Osler's *The Principles and Practice of Medicine*, published in 1892,¹ and the 11th edition of *Harrison's Principles of Internal Medicine*.¹⁶ This edition, published in 1987, was selected because it came out more than 10 years ago (which gives it some distance from current practice) and approximately 100 years after the first edition of Osler's text. Because of Osler's reputation as a therapeutic nihilist^{6,13,14} the comparison is based on the management of 4 specific conditions.

Methods

The organization and emphasis of the 2 volumes was examined by listing chapter titles and calculating the percentage of the total number of pages for specific chapters.

The content analysis was performed for 4 disease states by means of sentence counts. The disease states selected for analysis were diabetes mellitus, ischemic heart disease, pneumonia and typhoid fever. These conditions were selected because they were all discussed in both books, because typhoid and pneumonia were major health issues in the late 19th century, and



because diabetes mellitus and ischemic heart disease are significant health problems in our era. χ^2 testing was used to examine the statistical significance of any differences in proportions. Further analysis of the treatment recommendations for these conditions was undertaken, again by means of sentence counts. χ^2 testing was not performed for this analysis, because for a number of the comparisons more than 20% of the cells had expected counts of less than 5. Finally, Osler's textbook was reviewed for "negative" comments about drug therapies.

Results

The chapter comparisons are presented in Table 1. Approximately one-fifth of Harrison's textbook is given over to a general consideration of the basis of internal medicine. There is no equivalent discussion in Osler's book. Although Osler's organization is not foreign to a "modern" reader, some of the chapter headings do seem unusual. For example, the grouping of intoxications, sunstroke and obesity appears idiosyncratic.

Table 2 shows the content analysis for diabetes mellitus, ischemic heart disease, pneumonia and typhoid fever. The proportions for the subject headings were significantly different ($p < 0.001$) for all 4 conditions. In particular, Osler gave more space to pathology and clinical manifestations.

However, equivalent proportions were allocated to treatment for diabetes mellitus ($\chi^2 = 0.047, p = 0.82$), pneumonia ($\chi^2 = 0.86, p = 0.35$) and typhoid fever ($\chi^2 = 0.71, p = 0.39$) when we reduced the contingency tables to 2×2 tables. For treatment of ischemic heart disease the difference in proportions was significant ($\chi^2 = 8.44, p = 0.004$).

Table 3 presents the analysis of treatment recommendations. Most of Osler's recommendations dealt with general care, diet or relief of symptoms, except for ischemic heart disease, for which he advocated various drugs (nitrates, chloroform, morphine and iodides). Drug treatment for diabetes was characterized as "most unsatisfactory, and no one drug appears to have a directly curative influence" (p. 304). Pneumonia was described as a "self-limited disease, and runs its course uninfluenced in any way by medicine" (p. 529). Concerning typhoid fever, Osler wrote that "[it] is not a disease to be treated by medicines" and that "Careful nursing and a regulated diet are the essentials in the majority of cases" (p. 33).

Osler specifically stated that drugs were ineffective in the treatment of 45 diseases. His comments were definitive, incorporating words and phrases such as "unsatisfactory," "futility [of treatment]," "no measures have been found to be of the slightest avail," "of little service" and "useless."

Table 1: Comparison of contents of 2 medical textbooks published a century apart

Osler's <i>The Principles and Practice of Medicine</i> , 1st edition (1079 pages)		<i>Harrison's Principles of Internal Medicine</i> , 11th edition (2260 pages)*	
Chapter title	% of total pages	Chapter title	% of total pages
–		Introduction to clinical medicine	0.6
–		Cardinal manifestations of disease	12.0
–		Biological considerations in the approach to clinical medicine	7.5
Specific infectious diseases	24.9	Disorders caused by biological and environmental agents	18.0
Constitutional diseases†	4.9	Endocrinology and metabolism	11.2
–		Disorders of the immune system connective tissue, and joints	3.8
Diseases of the digestive system	14.0	Disorders of the gastrointestinal tract	7.2
Diseases of the respiratory system	9.9	Disorders of the respiratory system	4.1
Diseases of the circulatory system	9.5	Disorders of the cardiovascular system	8.1
Diseases of the blood and ductless glands	3.1	Hematology and oncology	5.9
Diseases of the kidneys	5.4	Disorders of the kidney and urinary tract	3.7
Diseases of the nervous system	20.4	Disorders of the central and peripheral nervous system	7.6
Diseases of the muscles	0.6	–	
The intoxications; sun-stroke; obesity	1.9	–	
Diseases due to animal parasites	2.6	–	
–		Disorders of bone and mineral metabolism	2.5
–		Psychiatry	1.5
–		Appendix — laboratory values	0.4
Index	2.6	Index	5.8

*Order of chapters has been changed to facilitate comparison of similar chapters in the 2 textbooks.

†This chapter included discussions of rheumatic fever, chronic rheumatism, pseudo-rheumatic affections, muscular rheumatism, rheumatoid arthritis, gout, diabetes mellitus, diabetes insipidus, rickets, scurvy, purpura and hemophilia.



Interpretation

Osler's grounding as a pathologist and his keen interest in clinical medicine are reflected by his emphasis on both of these subjects in his textbook. Our era has seen a diminution of the emphasis on pathology and clinical manifestations. However, the 2 textbooks devoted equivalent space to treatment for 3 of the 4 disease states examined. Further analysis of Osler's discussion of treatment revealed that most of his recommendations dealt with general measures or symptomatic relief. He made a number of harsh yet generally true statements about the futility of then-available medications.

According to Golden and Roland,^{13,14} the major criticism of *The Principles and Practice of Medicine* when it was first published was Osler's therapeutic conservatism. One critic characterized his approach as "paranoia antitherapeuticum baltimorensis."¹⁴ Some have stated that his cautious ap-

proach arose from an awareness of the lack of efficacy of most available drugs and his belief in the importance of treating the whole patient.¹⁴ Yet it would be wrong to accuse him of being a therapeutic nihilist — it is more accurate to call him a "medicinal nihilist."¹⁷⁻¹⁹ That is not to say that he considered all medications useless. He prescribed ergot, nitroglycerine and potassium iodide¹⁷ and referred to morphine as "G.O.M." ("God's own medicine").¹³ Osler emphasized general supportive measures.⁶ While his suggestions were not beyond reproach, he did deal better than most current medical authors with end-of-life care.²⁰

Osler's conservative approach to drugs helped in making his book widely accepted.¹⁵ He did not ally himself to a particular therapeutic approach. The book helped to shape the evolving concept of the physician less as a therapist and more as a diagnostician.¹⁵ His frank appraisal of the futility of much of the medical therapy available at the time had the direct beneficial impact of instigating the Rockefeller philanthropic efforts in health.²¹ His comments about drugs were surprisingly strong in tone. Osler felt that "no class of men need friction so much as physicians."^{22,23} On occasion he chose to speak out strongly, trying to shake his audience out of its complacency. Although this approach may have contributed to the strength and colour of his comments, it may also have

Table 2: Content analysis for 4 medical conditions, by sentence count

Topic	Textbook; no. (and %) of sentences*	
	Osler, 1st edition	Harrison's, 11th edition
Diabetes mellitus		
Etiology	51 (18)	147 (15)
Pathology	34 (12)	0
Manifestations	59 (21)	32 (3)
Complications	46 (16)	350 (35)
Treatment	67 (24)	231 (23)
Total	280	991
Ischemic heart disease†		
Etiology	33 (38)	42 (14)
Symptoms	12 (14)	31 (10)
Laboratory investigations	0	52 (17)
Treatment	18 (21)	114 (37)
Total	87	305
Pneumonia		
Etiology	72 (14)	38 (14)
Pathology	68 (13)	0
Symptoms	134 (25)	13 (5)
Diagnosis or differential diagnosis	26 (5)	117 (44)
Laboratory	0	40 (15)
Treatment	74 (14)	31 (12)
Total	532	268
Typhoid fever		
Etiology	69 (8)	51 (23)
Pathology	135 (15)	9 (4)
Manifestations (including complications)	389 (42)	52 (23)
Prevention	30 (3)	12 (5)
Treatment	147 (16)	41 (18)
Total	916	223

*The percentages for the topics listed do not sum to 100% because for each condition some sentences related to other topics (e.g., definition and prognosis).

†The section was titled "angina pectoris." The discussion of "pseudo-angina" in this section was excluded from the sentence count.

Table 3: Analysis of prevention and treatment recommendations for 4 conditions, by sentence count

Topic	Textbook; no. (and %) of sentences	
	Osler, 1st edition	Harrison's, 11th edition
Diabetes mellitus		
Diet	37 (54)	38 (16)
Primary drug treatment	17 (25)	193 (84)
Other	13 (19)	0
Total	67	231
Ischemic heart disease		
Risk factors	0	7 (6)
Primary drug treatment	15 (83)	39 (34)
Revascularization	0	48 (42)
Other	3 (17)	20 (18)
Total	18	114
Pneumonia		
Investigation	0	8 (26)
General measures and symptomatic care	61 (82)	4 (13)
Primary drug treatment	0	16 (52)
Other	13 (18)	3 (10)
Total	74	31
Typhoid fever		
Prevention and control	30 (17)	12 (23)
General measures and symptomatic care	118 (67)	4 (8)
Managing complications	20 (11)	7 (13)
Primary drug treatment	0	17 (32)
Other	9 (5)	13 (25)
Total	177	53



led to some of the controversial episodes in his life.^{23,24}

The literature of medicine is shaped by the social and intellectual climate of the time in which it is written. The particular content of medical textbooks decays rapidly with the years. To get a truer picture of the merit of a medical textbook, it is important to acknowledge the context of its era. By this criterion, Osler's work deserves its high reputation. In addition, we can still find practical advice in this textbook. Recent Canadian studies have shown an alarming degree of overprescribing by Canadian physicians.²⁵⁻²⁷ Osler's demand for proof of efficacy before using a medication thus remains relevant to today's medical practice.

Competing interests: None declared.

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