



*Notes for*  
***The University of Toronto***  
***A History***

Martin L. Friedland

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Footnotes are identified in this document by words or phrases from the text. To look up the source for a statement in the text, scroll down to the appropriate page and paragraph from the text. You can also use Adobe Acrobat's 'find' function to search for specific words.

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## CHAPTER 16 – 1897 – GRADUATE STUDIES

1. Page 175, para. 1 – “the introduction of the PhD degree in 1897”: Senate minutes of April 30 and May 14, 1897, UTA/A68-0012, reel 3; Peter N. Ross, “The Origins and Development of the Ph.D. Degree at the University of Toronto 1871-1932” (Ed.D. Thesis: University of Toronto, 1972) at 194; Peter N. Ross, “The Establishment of the Ph.D. at Toronto: A Case of American Influence,” *History of Education Quarterly* (Fall, 1973) at 372 says that the regulations were proposed on March 12, 1897 and adopted May 14, 1897.
2. Page 175, para. 1 – “fifteen years earlier”: James Loudon, “The Memoirs of James Loudon,” B72-0031/016(11) at 52. Loudon does not discuss the 1897 Ph.D. in the memoirs.
3. Page 175, para. 1 – “no regulations implementing it had been established”: Ross, “The Establishment of the Ph.D.” at 364.
4. Page 175, para. 1 – “the feasibility of offering the degree”: Ibid. at 372.
5. Page 175, para. 1 – “had never been revoked”: Ross, “The Origins and Development of the Ph.D.” at 193.
6. Page 175, para. 1 – “again on Macallum’s motion”: Ross, “The Establishment of the Ph.D.” at 372.
7. Page 175, para. 1 – “due to Professor A.B. Macallum”: *Annual Report of the President of the University of Toronto for the year ending June 30<sup>th</sup>, 1902* at 4.
8. Page 175, para. 2 – “the lesser qualification, the MB”: The M.D. was an uncommon degree. Most degrees in Medicine at the time were M.B. degrees. From 1854 to 1906, the University granted 1,485 M.B. degrees and only 175 M.D. degrees: see *The University of Toronto and its Colleges, 1827-1906* (Toronto: The University Library, 1906) at Appendix F.
9. Page 175, para. 2 – “a research degree requiring a thesis”: The university’s power to grant doctorates had been confirmed by legislation in 1873, which allowed the university to award doctorates in “any Department of knowledge whatsoever, except theology.”: see *An Act Respecting the University of Toronto (1873)*, section 41. This declaratory section of the act may have been inspired by the controversy between 1860 and 1868 in England over the legal power of the University of London to grant the degree of D.Litt. see: Renate Simpson, *How the Ph.D. Came to Britain: A Century of Struggle for Postgraduate Education*, (Sturminster Newton, England: Direct Design Ltd, 1983) at 48-9.

10. Page 175, para. 2 – “by either thesis or examination”: Ross, “The Origins and Development of the Ph.D.” at 87. The D. Paed. that Loudon had steered through the Senate in 1894 was based only on examination: see *ibid.* at 164-5.
11. Page 175, para. 3 – “the first convocation of King’s College”: King’s College, Toronto, *Faculty of Arts* (Toronto: H. & W. Rowsell, 1845) at pt. IV (Degrees) UTA/B88/002/001(20); *The University of Toronto and its Colleges, 1827-1906* at Appendix F. A Convocation held in 1844 awarded degrees *ad eundem*, but no M.A.s.
12. Page 175, para. 3 – “But the degree was not highly regarded”: Ross, “The Origins and Development of the Ph.D.” at 92; A.B. Macallum, “The Foundation of the Board of Graduate Studies,” *University of Toronto Monthly*, v.16 (February, 1916) at 220; R. Ramsay Wright and W.J. Alexander, “The Arts Faculty” in *The University of Toronto and its Colleges 1827-1906* (Toronto: University Librarian, 1906) at 92 says there was only a “perfunctory treatment” of M.A. theses.
13. Page 176, para. 1 – “nor was residence at the University required”: In 1871, the M.A. degree requirements were “Candidates ... must be of the standing of one year from admission to the Degree of B.A., and must have composed an approved Thesis upon some subject in one of the Departments in the Faculty of Arts”: see *Revised Statutes of the University of Toronto, 1871* (Toronto: Henry Rowsell, 1872) at 2 (Faculty of Arts).
14. Page 176, para. 1 – “or to other aids”: John G. Slater, “Philosophy at Toronto” (Unpublished manuscript, 1999) at 162.
15. Page 176, para. 1 – “any original research worthy of mention”: *Varsity*, March 7, 1900; Macallum, “The Foundation of the Board of Graduate Studies” at 220.
16. Page 176, para. 1 – “no references to authorities”: Mavor’s comment written on cover page of W.L.M. King, “The International Typographical Union” (M.A. Thesis, University of Toronto, 1897) in UTA/T79-0075.(83).
17. Page 176, para. 1 – “The requirements were tightened in 1903”: Ross, “The Origins and Development of the Ph.D.” at 119 and 216; Macallum, “The Foundation of the Board of Graduate Studies” at 220.
18. Page 176, para. 1 – “a year’s residence would be required for the degree”: W.S. Wallace, *A History of the University of Toronto* (University of Toronto Press, 1927) at 223.
19. Page 176, para. 2 – “four of them at Leipzig”: See Chapter 14 (1890). See also Ross, “The Origins and Development of the Ph.D.” at 171-72.
20. Page 177, para. 1 – “post-graduate work at the University of Berlin”: UTA/Graduate Records/“William John Alexander”/A73-0026/004(23).
21. Page 177, para. 1 – “from Freiburg University”: Ross, “The Origins and Development of the Ph.D.” at 171.
22. Page 177, para. 2 – “at least far from being friendly to her”: Simpson, *How the Ph.D. Came to Britain* at 81.
23. Page 177, para. 2 – “received their doctorates from Johns Hopkins”: See Elsie M. Pomeroy, *William Saunders and His Five Sons: The Story of the Marquis Wheat Family* (Toronto: The Ryerson Press, 1956).
24. Page 177, para. 2 – “at Hamilton College in New York”: See Elsie M. Pomeroy, *William Saunders* at 156.
25. Page 177, para. 2 – “the chair of physics at Harvard”: See Elsie M. Pomeroy, *William Saunders* at 173.
26. Page 177, para. 2 – “the developer of Marquis wheat”: Elsie M. Pomeroy, *William Saunders* at 141. A populist ranking of Canadians important in the twentieth century placed Charles Saunders first: see H. Graham Rawlinson and J. L. Granatstein, *The Canadian 100: the 100 most influential Canadians of the twentieth century* (Toronto: Little, Brown and Company, 1997) at 15-18.

27. Page 177, para. 3 – “McGill did not introduce the PhD degree until 1906”: Stanley Brice Frost, *McGill University, v. 2 1895-1971* (Montreal: McGill-Queen's University Press, 1980) at 80-82.
28. Page 177, para. 3 – “before the turn of the century”: Ross, “The Origins and Development of the Ph.D.” at 15; Robin Harris, *A History of Higher Education in Canada 1663-1960* (University of Toronto Press, 1976) at 187, states that Mount Allison and New Brunswick also had Ph.D.s by 1890.
29. Page 177, para. 3 – “could not receive a PhD in England”: Simpson, *How the Ph.D. Came to Britain* at 135.
30. Page 177, para. 3 – “work of a very high standard”: James G. Greenlee, *Sir Robert Falconer: A Biography* (University of Toronto Press, 1988) at 187; Simpson, *How the Ph.D. Came to Britain* at 74.
31. Page 177, para. 3 – “towards the end of the First World War”: Simpson, *How the Ph.D. Came to Britain* at 135; Negley Harte, *The University of London 1836-1986* (London: The Athlone Press, 1986) at 200; Greenlee, *Sir Robert Falconer* at 239.
32. Page 177, para. 3 – “gone to Germany for graduate work”: Simpson, *How the Ph.D. Came to Britain* at 121.
33. Page 177, para. 3 – “from the United States”: Ibid. at 145.
34. Page 177, para. 3 – “very few scholarships were available”: Harris, *History of Higher Education* at 188 describes the Gilchrist Scholarships at the University of London. See also Simpson, *How the Ph.D. Came to Britain* at 72 and Yves Gingras, *Physics and the Rise of Scientific Research in Canada* (Montreal: McGill-Queen's University Press, 1991) at 41-45 for the 1851 Exhibition scholarship; Simpson, *How the Ph.D. Came to Britain* at 73 et seq. for the Rhodes.
35. Page 177, para. 4 – “by Yale since 1860”: Ross, “The Establishment of the Ph.D.” at 360.
36. Page 178, para. 1 – “since the 1870s”: Ibid.
37. Page 178, para. 1 – “in academic life in the United States”: Ross, “The Establishment of the Ph.D.” at 358.
38. Page 178, para. 1 – “from its founding until 1900”: Ross, “The Origins and Development of the Ph.D.” at 149.
39. Page 178, para. 1 – “with Toronto graduates receiving 19 of them”: Ibid. at 181.
40. Page 178, para. 1 – “only 40 PhDs from 1897 until 1921”: *University of Toronto Register of Graduates 1920* (University of Toronto Press, 1921) at 156.
41. Page 178, para. 1 – “financial assistance from that university”: Ross has calculated that 21 of the 31 University of Toronto graduates enrolled at Johns Hopkins during this period received funding from that university: see Ross, “The Origins and Development of the Ph.D.” at 181.
42. Page 178, para. 1 – “were Toronto graduates”: Ross, “The Origins and Development of the Ph.D.” at 181.
43. Page 178, para. 1 – “I should much like to see their Alma Mater”: Ibid. at 130-131.
44. Page 178, para. 1 – “Pelham Edgar in French and, later, English”: C.B. Sissons, *A History of Victoria University* (University of Toronto Press, 1952) at 220.
45. Page 178, para. 1 – “the reputation of J.J. Sylvester”: Ross, “The Origins and Development of the Ph.D.” at 182 says that Sylvester attracted students. However, Sylvester was appointed to Oxford in December, 1883, and gave up “complete control of the Mathematical studies of the University” to “the person who may succeed to my positions there”: see Karen Hunger Parshall, *James Joseph Sylvester: Life and Work in Letters* (Oxford: Clarendon

- Press, 1998) at 235. Thus, Sylvester did not supervise Fields, who arrived in 1884, but the records at Johns Hopkins do not indicate who Fields' supervisor actually was.
46. Page 178, para. 1 – “a position at King’s College in 1843”: See Chapter 2 (1842).
  47. Page 178, para. 2 – “(founded in 1892)”: Ross, “The Establishment of the Ph.D.” at 361.
  48. Page 178, para. 2 – “which was restricted to graduate students”: Ross, “The Origins and Development of the Ph.D.” at 175.
  49. Page 178, para. 2 – “though far fewer obtained their PhDs there”: Ibid. at 181.
  50. Page 178, para. 2 – “39 Toronto graduates had gone to Chicago”: Ibid.
  51. Page 178, para. 2 – “Mackenzie King”: R. MacGregor Dawson, *William Lyon Mackenzie King: A Political Biography 1874-1923* (University of Toronto Press, 1958) at 51.
  52. Page 178, para. 2 – “and F.B.R. Hellems”: UTA/Graduate Records/“Frederick Hellems”/A73-0026/146(004).
  53. Page 178, para. 2 – “building is named after him”: Ibid.; Ross, “The Origins and Development of the Ph.D.” at 13. See, for example, <http://bus.colorado.edu/campus.html>, a map of the campus which prominently notes Hellems Hall.
  54. Page 178, para. 2 – “forty-six American universities awarded the PhD degree”: Ross, “The Origins and Development of the Ph.D.” at 149.
  55. Page 178, para. 2 – “to establish the doctorate at Toronto”: See James Loudon, “The Universities in Relation to Research,” *Proceedings of the Royal Society of Canada*, 1902 at LVIII and LIX.
  56. Page 179, para. 1 – “or Chicago take snuff”: *Varsity*, October 14, 1897.
  57. Page 179, para. 1 – “had research doctorates”: *University of Toronto and its Colleges*, Appendices at 223.
  58. Page 179, para. 1 – “the faculty of applied science and engineering”: *University of Toronto and its Colleges*, Appendices at 226-7.
  59. Page 179, para. 1 – “not a supporter of post-graduate degrees”: Ross, “The Origins and Development of the Ph.D.” at 207.
  60. Page 179, para. 1 – “which no single university fully supplies”: Ross, “The Origins and Development of the Ph.D.” at 131.
  61. Page 179, para. 2 – “after two years of residence”: *Calendar of University and University College, 1897-98* at 196; Ross, “The Establishment of the Ph.D.” at 372.
  62. Page 179, para. 2 – “spent at another university”: Ross, “The Origins and Development of the Ph.D.” at 200.
  63. Page 179, para. 2 – “a three-year residency until 1910”: Slater, “Philosophy at Toronto” at 165.
  64. Page 179, para. 2 – “restricted to University of Toronto graduates until 1905”: Macallum, “The Foundation of the Board of Graduate Studies” at 220.
  65. Page 179, para. 2 – “an original investigation conducted by himself”: *Calendar, 1897-98* at 196; Ross, “The Origins and Development of the Ph.D.” at 196.

66. Page 179, para. 2 – “and political science”: Ross, “The Origins and Development of the Ph.D.” at 194. The *University of Toronto Calendars* from 1897 to 1913 give a slightly different story. The departments offering major fields remained fixed at seven from 1897 to 1904-5: Biology, Chemistry, Physics, Geology, Philosophy, Oriental Languages and Political Science. Four departments offered minor courses: Modern Languages, Latin and Greek, History and Mathematics. From 1904-5 to 1909-10, Mathematics moved from the minor to the major category. From 1909 until the end of the period examined, no departments were “minor.” Instead, 11 programmes were offered: Biology, Physiology and Biochemistry, Geology and Mineralogy, Chemistry, Physics, Mathematics, Philosophy, Political Science, Oriental Languages and Romance Languages.
67. Page 179, para. 2 – “until after Fields came in 1902”: *University of Toronto Calendar*, 1902-03 at 135; Peter N. Ross, “The Origins and Development of the Ph.D.” at 209.
68. Page 179, para. 2 – “as it was commonly called”: Peter N. Ross, “The Origins and Development of the Ph.D.” at 206.
69. Page 179, para. 2 – “because James McCurdy of University College”: He had come to Toronto in 1885 after spending 11 years at Princeton, where he had received his doctorate in 1878: see “The Founder of Oriental Studies in the University of Toronto,” *University of Toronto Monthly* (October, 1935). Between 1894 and 1896, he produced three editions of his massive, three-volume work, *History, Prophecy and the Monuments: or Israel and the Nations* (New York: Macmillan, 1894). The third edition appeared in 1896. In 1911, its three volumes were reprinted as one. Three of his Ph.D. students went on to senior positions at the University. Richard Davidson became the principal of Emmanuel College (from 1932 until 1944): see UTA/Graduate Records/“Richard Davidson”/A73-0026/079. Thomas Eakin became the principal of Knox College (from 1926 until 1944): see UTA/Graduate Records/“Thomas Eakin”/A73-0026/091(79); see also Chapter 19 (1907). William Taylor became the principal of University College (from 1944 to 1951): see A.S.P. Woodhouse, “William Robert Taylor,” *Proceedings of the Royal Society of Canada* (1951) at 116.
70. Page 179, para. 2 – “up to the end of the First World War”: Charles Levi, “Thirty-Nine PhDs” (unpublished research note, University of Toronto History Project).
71. Page 179, para. 3 – “had to read more than 1,500 essays”: Ross, “The Origins and Development of the Ph.D.” at 210.
72. Page 179, para. 3 – “in a Johns Hopkins-style degree”: Robert Bothwell, *Laying the Foundation: A Century of History at the University of Toronto* (Toronto: Department of History, 1991) at 65.
73. Page 179, para. 3 – “aims at the understanding of a subject”: *Ibid.* at 66.
74. Page 179, para. 3 – “were not awarded until 1925”: *Ibid.* at 67.
75. Page 180, para. 1 – “most American universities that offered the degree”: Slater, “Philosophy at Toronto” at 165.
76. Page 180, para. 1 – “an ad hoc committee appointed by the senate”: Ross, “The Origins and Development of the Ph.D.” at 195. The Board’s membership was drawn from the Council of the University, the Council of University College and the Senate of Victoria University. It had limited powers. Macallum secured its replacement by the Board of Post-Graduate Studies in 1903. This Board had “wider powers”: see *ibid.* at 205-206.
77. Page 180, para. 1 – “a board of graduate studies was established”: Macallum, “The Foundation of the Board of Graduate Studies” at 221; Slater, “Philosophy at Toronto” at 107; Ross, “The Origins and Development of the Ph.D.” at 223.
78. Page 180, para. 1 – “chaired the senate committee and, later, the board”: Ross, “The Origins and Development of the Ph.D.” at 206.

79. Page 180, para. 1 – “though advocated by the senate over the years”: Ross, “The Origins and Development of the Ph.D.” at 211 states that the Senate had recommended a separate faculty to the 1906 Royal Commission .
80. Page 180, para. 1 – “not established in the University until 1922”: Wallace, *A History of the University of Toronto* at 223.
81. Page 180, para. 2 – “a total of 35 PhDs were awarded by the University”: *Register of Graduates 1920*.
82. Page 180, para. 2 – “his massive work on Russian economic history”: Judy Mills and Irene Dombra, eds., *University of Toronto Doctoral Theses, 1897-1967* (University of Toronto Press, 1968) at 615; James Mavor, *An Economic History of Russia* (London: J.M. Dent and Sons Ltd., 1914). The degree was awarded before the publication of the work. The regulations of the programme were explicitly waived for Mavor and for Van der Smissen: see Ross, “The Origins and Development of the Ph.D.” at 289-90.
83. Page 180, para. 2 – “also based on published work”: W.H. Van der Smissen, *Shorter Poems of Goethe and Schiller, in Chronological Order* (New York: D. Appleton, 1912).
84. Page 180, para. 3 – “his thesis on nerve cells in 1899”: Ross, “The Origins and Development of the Ph.D.” at 198. Another of Macallum’s doctoral students was George Nasmith, who for forty years was the deputy health officer for Toronto and an expert on water supplies. During the First World War, he went overseas and developed the first mobile water filtration units and, after the chlorine gas attack near Ypres in 1915, devised the first gas mask: see UTA/Graduate Records/“George Gallie Nasmith”/A73-0026/345. Another doctoral student was J.B. Collip, who was intimately involved in the discovery of insulin. Collip went on to a distinguished career at Alberta and later McGill and still later Western, where he was the dean of medicine: see UTA/Graduate Records/“James B. Collip”/A73-0026/65. A further student – though not a doctoral student – of Macallum’s, Maude Menten, should be mentioned. She was a 1904 graduate in natural science from the University and then studied medicine at the women’s medical college. When it closed, she transferred to the University’s medical school. While there, she was a demonstrator in the physiology department and worked closely with Macallum, publishing a paper with him on nerve cells in 1906 in the *Proceedings of the Royal Society of Canada*. Her later work led to her co-authorship of the first monograph of the Rockefeller Institute in New York, and her work on enzymes in Berlin led to the important discovery with Leonor Michaelis of the “Michaelis-Menten Equation.” She subsequently received her Ph.D. from the University of Chicago and spent most of her career as a professor of pathology at the University of Pittsburgh, where her scholarly output continued, chiefly on cancer research: see UTA/Current People/“Maud Leonora Menten.”
85. Page 180, para. 3 – “for other publications with other libraries”: Ross, “The Origins and Development of the Ph.D.” at 197-8.
86. Page 180, para. 3 – “was not good enough”: F. H. Scott, “On the Structure, Micro-Chemistry and Development of Nerve Cells, with Special Reference to Their Nuclein Compounds,” *Transactions of the Canadian Institute*, v. 6, pts. 1 and 2 (December, 1909) at 405.
87. Page 180, para. 3 – “reprint the text of his thesis in that series”: F. H. Scott, “On the Structure, Micro-Chemistry and Development of Nerve Cells, with Special Reference to Their Nuclein Compounds,” *University of Toronto Studies, Physiological Series* no. 1 (1900).
88. Page 180, para. 3 – “had been accepted for publication”: Ross, “The Origins and Development of the Ph.D.” at 199-200.
89. Page 180, para. 3 – “fifteen years after his death”: F.C. MacIntosh, “Canada’s First Ph.D. in Physiology,” *Physiology Canada*, v.10 (1985) at 94 calls the two concepts “chemical transmission and axonal transport” and says that they “have since been recognized as among the most basic in neurosciences.” The description in the text was George Connell’s translation of the terms.
90. Page 180, para. 3 – “into a first-class institution”: Maurice B. Visscher, “Dr. Scott – An Appreciation,” *The*

*Journal-Lancet* (Minneapolis), v.71 (November, 1951) at 509, as forwarded by the University of Minnesota Archives.

91. Page 180, para. 4 – “awarded to John McLennan in physics”: *University of Toronto and its Colleges, Appendices* at 256.
92. Page 182, para. 1 – “the acknowledged leader of Science in Canada”: A.S. Eve, “Sir John Cunningham McLennan 1867-1935,” *Obituary Notices of Fellows of the Royal Society 1932-1935* (London: Harrison and Sons, 1936) at 577.
93. Page 182, para. 1 – “in the physics division”: H. H. Langton, *Sir John Cunningham McLennan: A Memoir* (University of Toronto Press, 1939) at 11.
94. Page 182, para. 1 – “immediately appointed an assistant demonstrator”: *Ibid.* at 12.
95. Page 182, para. 1 – “with sir J.J. Thomson in the Cavendish Laboratory”: *Ibid.* at 15-17.
96. Page 182, para. 1 – “the great Wilhelm Ostwald of Leipzig”: Eve, “Sir John Cunningham McLennan 1867-1935” at 578.
97. Page 182, para. 1 – “the basis for the awarding of a doctorate by Toronto”: *University of Toronto and its Colleges, Appendices* at 256.
98. Page 182, para. 1 – “Loudon supported the granting of the doctorate”: James Loudon was McLennan’s friend and supporter throughout his career at Toronto: see Langton, *Sir John Cunningham McLennan* at 12.
99. Page 182, para. 1 – “for supervising McLennan’s work”: Neither did W.J. Loudon, James Loudon’s nephew, supervise McLennan’s work.
100. Page 182, para. 1 – “up to the Second World War”: Levi, “Thirty-Nine PhDs”; Charles Levi, “Doctoral Theses by Discipline 1915-1939 as taken from *Doctoral Theses 1897-1967*” (Memorandum, June 30, 1999).
101. Page 182, para. 1 – “head of physics at the University of Toronto”: After receiving his B.A. in 1904 he worked with McLennan and then received one of the few scholarships available for study in England, the 1851 Exhibition scholarship, made possible by a surplus of money left over from the 1851 Royal Exhibition. Like McLennan he studied and worked with Thomson, but unlike McLennan he in the end received a Cambridge B.A. He returned to the University of Toronto and under McLennan’s supervision received his Ph.D. in 1910. Burton supervised two students, James Hilliar and Albert Prebus, who actually built the microscope: see UTA/Graduate Records/“Eli Franklin Burton”/A73-0026/046(78).
102. Page 182, para. 2 – “to William Parks in 1900”: *University of Toronto and its Colleges, Appendices* at 256.
103. Page 182, para. 2 – “the head of geology, Arthur Coleman”: Ross, “The Origins and Development of the Ph.D.” at 8-9; UTA/Graduate Records/“Arthur Philemon Coleman”/A73-0026/64(81-2).
104. Page 182, para. 2 – “during the First World War”: Ross, *The Origins and Development of the Ph.D.* at 306-7.
105. Page 182, para. 2 – “at the School of Practical Science”: J.B. Tyrrell, “Arthur Philemon Coleman,” *Transactions of the Royal Society of Canada, Series 3, v. 33* (1939) at 125-6.
106. Page 182, para. 2 – “being evidences of glaciation”: W.W. Watts, “Arthur Philemon Coleman,” *Obituary Notices of Fellows of the Royal Society 1939-1941*, volume 3 (London: Morrison and Gibb Ltd., 1942) at 117.
107. Page 182, para. 2 – “when Coleman retired in 1922”: E.S. Moore, “Memorial of William Arthur Parks,” *Proceedings of the Geological Society of America for 1936* at 230.

108. Page 182, para. 2 – “at the Royal Ontario Museum from 1915 to 1936”: Ibid.
109. Page 182, para. 2 – “dinosaur specimens at the museum”: Ibid. at 229.
110. Page 182, para. 3 – “who had received his PhD in Germany”: See Chapter 14 (1890).
111. Page 182, para. 3 – “one teaching at Wisconsin”: This was John R. Roebuck: see electronic mail message from Cathy Jacob, University of Wisconsin Archives to Charles Levi, March 17, 1999.
112. Page 182, para. 3 – “one teaching at Utah”: “University of Utah Historical Records: Walter D. Bonner” (forwarded by University of Utah Archives).
113. Page 184, para. 1 – “in Schenectady, New York”: UTA/Graduate Records/“Saul Dushman”/A73-0026/090. William Lang, also in chemistry, supervised the fourth doctorate the University awarded. Francis Allan, Lang’s student, became the professor of organic chemistry at the University and in 1934 the dean of arts: see UTA/Graduate Records/“Francis Allan”/A73-0026/004.
114. Page 184, para. 1 – “at the Dominion Observatory in Ottawa”: C.S. Beals, “Ralph Emerson DeLury,” *Proceedings of the Royal Society of Canada* (1957).
115. Page 184, para. 1 – “and headed its school of engineering research”: Ross, “The Origins and Development of the Ph.D.” at 284. Boswell received his doctorate in 1907. He was appointed a Demonstrator in Chemistry for the academic year 1906-7: see *The Calendar of the University of Toronto for the year 1906-7* at 22. Maitland C. Boswell outlined the creation of the School of Engineering Research in the first issue of *School of Engineering Research, Bulletin* (1919).
116. Page 184, para. 1 – “was named after Lash Miller”: The building is now named the John and Edna Davenport Chemical Research Building, which incorporates the Lash Miller Chemical Research Laboratories: see *University of Toronto Bulletin*, December 18, 2000.
117. Page 184, para. 2 – “in the *Journal of Physical Chemistry*”: *University of Toronto and its Colleges*, Appendices at 256.
118. Page 184, para. 2 – “under August Kirschmann”: Ibid.; Tory Hoff, “The Controversial Appointment of James Mark Baldwin to the University of Toronto in 1889” (M.A. Thesis, Carleton University 1980) at 209. After a year in Paris and another year at Cambridge, Baker became the vice-principal of the women’s college at Mount Allison University and in 1913 accepted a chair in psychology at the Maryland college for women, later becoming its principal: see *Allisonia*, v. 11, no.2 (February 1914), from documents forwarded by Mount Allison Department of Philosophy to John Slater, 1997. Kirschmann supervised three other Ph.D.s in psychology before returning to Germany in 1909: see Hoff, “The Controversial Appointment of James Mark Baldwin” at 206. Hume, the head of the department, supervised only one student, who, after a period as a missionary in China, became a professor at Wycliffe College. This was William E. Taylor: see UTA/Graduate Records/“William Edington Taylor”/A73-0026/463(37). After Kirschmann left, no Ph.D.s were awarded in psychology until 1927: see Slater, “Philosophy at Toronto” at 117.
119. Page 184, para. 2 – “positions for women chemists were not easy to find”: Ruby Heap, “From the Science of Housekeeping to the Science of Nutrition: Pioneers in Canadian Nutrition and Dietetics at the University of Toronto’s Faculty of Household Science, 1900-1950” (Unpublished paper, presented June 7, 1997 at the CHA conference, Memorial University of Newfoundland, 8) at 14.
120. Page 184, para. 2 – “like many women chemists at the time”: Ibid.
121. Page 184, para. 2 – “She joined the School of Household Science”: Kerrie J. Kennedy, “Womanly Work: The Introduction of Household Science at the University of Toronto” (M.A. Thesis, University of Toronto, 1995) at 33.

122. Page 184, para. 2 – “started by Lillian Massey Treble”: David Roberts, “Lillian Frances Massey (Treble),” *DCB*, v.14 at 746.
123. Page 184, para. 2 – “from Lillian Massey’s cooking classes”: Heap, “From the Science of Housekeeping” at 5-6.
124. Page 184, para. 2 – “a school training teachers of household science”: Kennedy, “Womanly Work” at 40; Heap, “From the Science of Housekeeping” at 6.
125. Page 184, para. 2 – “were first offered by the University in 1902”: Heap, “From the Science of Housekeeping” at 6.
126. Page 184, para. 3 – “the household science degree to the senate”: Kennedy, “Womanly Work” at 43; Heap, “From the Science of Housekeeping” at 6.
127. Page 184, para. 3 – “a true woman’s life in our university”: Kennedy, “Womanly Work” at 43.
128. Page 184, para. 3 – “should remain in the home”: Although many women were at the time entering the workforce, it was precisely this phenomenon that generated discussion of the nature of a “true” woman and how society could both protect the individual and promote the ideal: see Carolyn Strange, *Toronto’s girl problem: the perils and pleasures of the city, 1880-1930* (University of Toronto Press, 1995).
129. Page 184, para. 3 – “of such a course in the University”: Heap, “From the Science of Housekeeping” at 7.
130. Page 184, para. 3 – “from physical chemistry to physiological chemistry”: *Ibid.* at 15.
131. Page 184, para. 3 – “Macallum’s department of physiology”: *Ibid.* at 15.
132. Page 184, para. 3 – “above the rank of demonstrator”: *Ibid.*; *The University of Toronto and its Colleges*, Appendices at 221-222 lists two other women on staff in 1906 – Miss L.B. Johnson, an assistant demonstrator in physics, and Miss M.L. Menten, class assistant in physiology – neither of which are, of course, professorial appointments.
133. Page 184, para. 4 – “and the principal, Annie Laird”: Kennedy, “Womanly Work” at 52; Heap, “From the Science of Housekeeping” at 3 et seq.; *The University of Toronto and its Colleges*, Appendices at 229.
134. Page 185, para. 1 – “under the direction of able men”: Clara Benson, “Household Science,” *University of Toronto Monthly*, v. 7 at 63; see Kennedy, “Womanly Work” at 67.
135. Page 185, para. 1 – “half a million dollars from Lillian Massey Treble”: Kennedy, “Womanly Work” at 46.
136. Page 185, para. 1 – “a listing in *American Men of Science*”: *Ibid.* at 17.
137. Page 185, para. 1 – “28 of them in the sciences”: Anne Rochon Ford, *A Path Not Strewn With Roses: One Hundred Years of Women at the University of Toronto 1884-1984* (University of Toronto Press, 1985) at 46.