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## Inventory of John Satterly Fonds

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John Satterly *fonds*

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#### Biographical Note

John Satterly, A.R.Sc., D.Sc., M.A. F.R.S.C was one of the best known and respected figures in Canadian Physics. Born in Ashburton, Devon, England on November 29, 1879, he acquired a strong background in science and mathematics while at Ashburton Grammar School and went on to spend three years (1898-1901) at the Royal College of Science in Kensington. There he studied under Tilden, Reicher, Perry and Judd. From 1901 - 1903 he acted as Demonstrator at the Royal College of Science and then went on to Cambridge University as Tutor in Physics. At the same time, he worked under Professor J. J. Thompson at the Cavendish Laboratory. His research led to a number of publications on the radioactivity of the atmosphere and its variation with the weather; and on the radioactivity of natural waters and soils. He obtained B.A. and M.A. degrees from Cambridge and a D.Sc. from the University of London.

Satterly became acquainted with a number of Canadian Physicists and was asked to take up a teaching position at the University of Toronto in 1912 where he remained for the next 38 years until his retirement on June 20, 1950. He taught courses on Properties of Matter, Mechanics and Heat to first and third year students. Many of his first year lectures became renowned for their showmanship, especially that which was devoted to Liquid Air. Satterly maintained his interest and research in the area of heat and mechanics and surface tension and viscosity even after his retirement in 1950. A room was reserved for him in the McLennan Laboratory and in the decade following his retirement he could be found there nearly every day working on problems which continued to interest him. Post 1950 inserts into his lecture notes bear witness to the devotion Satterly had in updating and advancing his own interests in physics. The 1950s saw a considerable increase in the number of research papers published by Satterly and it was not until three months before his death that the frequency of his publications ceased. John Satterly died on October 1, 1963, aged 83.

#### SCOPE AND CONTENT

Textual ; graphic; 18-- - 1964 [predominant 1886-1963], 3.69 m.

This *fonds* contains the personal and professional papers documenting the life and accomplishments of physicist John

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Satterly. Included is personal and professional correspondence, family documents, material related to Devon, England and its history; photoprints; course notes and related material such as certificates and diplomas from Satterly's days as a student; lecture notes; laboratory experiments; problem sets, examinations; textbooks; research notes; and publications which document his career as physicist at the University of Toronto.

Few administrative records of the Department of Physics from the first half of the twentieth century are available in the University Archives. As a result, this fonds provides a valuable documentation not only the life of the renowned physicist, but also of the teaching of Physics at the University of Toronto from 1912 to 1950 as well. The personal papers of other physicists already in the Archives compliment the Satterly fonds.

#### **Access: Open**

This *fonds* consists of four accessions: B72-0026, B76-0024, B81-0026, and B93-0048.

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SERIES DESCRIPTIONS

Series I Biographical and Personal Files

Textual ; graphic; 18-- - 1963; 0.33 m.

This series contains a biographical sketch of Satterly written by H.L. Welsh; family and professional correspondence; press clippings; letters to the editor; family documents including birth and marriage certificates; obituary notices; clippings, memorabilia, and photoprints relating to Devon, England and its history; postcards, and photoprints. A heavily annotated Bible belonging to Dr. G. M. W. Carey is also included in this series.

Records from all four accessions are found in this series.

Accession /Box (File)		Date Range
B72-0026/001 (22)	G.M.W. Carey's Bible	1883-1899
B93-0048/001 (03) - (04), /002 (01)	Family Documents	[18--]-1960 1931, 1954
B93-0048/002 (02)	Certificates	1917-1928
B72-0026/001 (01) - (18) /001 (19) - (20),	Professional Correspondence	1906-1963 [19--]-1954
B81-0026/001 (02),		1958-1959
B93-0048/001 (01) - (02)	Family and Personal Corresp.	1950-1964
B72-0026/001 (23) /001 (24) - (30) /001 (21)	Clippings re Cambridge Univ. Devon, England Letters to the Editor	1911-1961 1929-1962 [19--]
B81-0026/001 (01)	Press Clippings	1953
B76-0024/001 (01)	Biographical Sketch	1964
B93-0048/001 (05)	Obituary Notices	[n.d]
B72-0026/001P(01) - (29),		1880-1940
B93-0048/001P(02) /001P(01) /001P(03)	Photoprints of Devon Portraits of John Satterly Portrait of Charles Satterly	1903 [n.d] [n.d]
B81-0026/001P(01)	Photoprint of Satterly with Colleagues in an Open Air Touring Bus	1933

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Series II

Education

Textual ; graphic; 1892-1911; 0.26 m.

This series documents John Satterly's education while a student in England prior to teaching at the University of Toronto. The files in this series consist of Grammar School reports and Board School certificates, course and laboratory notes from the Royal College of Science, South Kensington (some of which are indexed); correspondence, textbooks, as well as diplomas and certificates from the Royal College of Science, the University of London, and Cambridge University.

Records from all four accessions are found in this series.

Accession /Box (File)		Date Range
B93-0048/001 (06) - (11)	Board School Certificates	1886-1891
/001 (12)	Grammar School Reports	1892-1897
B72-0026/002 (01) - (05),		1899-1907
B81-0026/001 (03) - (05)	Course Notes	1898-1910
B93-0048/001 (13)	Correspondence	1901-1911
B76-0024/001 (02) - (05),		1888-1909
B81-0026/001 (06)	Textbooks	1899-1990
B93-0048/002 (03)	Diplomas and Certificates	1895-1910
/002P(01)	Group Photo of the Cavendish Laboratory research students	1908

Series III

Lecture Notes

Textual ; graphic; 1912-1962 [predominant 1912-1950]  
1.53 m.

The files in this series consist of lectures given by John Satterly, while Professor and Professor Emeritus in the Department of Physics at the University of Toronto. There is evidence that some lecture notes were used from year to year and that portions of some notes have been transferred between classes. Occasionally, notes taken by Satterly as a student have been incorporated into his lecture notes and can be identified by the date and name of the lecturer.

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The lecture notes have been arranged by course, when applicable, as in the case of Properties of Matter, Mechanics and Heat I Year, Heat III Year, and Properties of Matter III Year. Fuller descriptions of these courses may be found in the Academic Calendars from the appropriate years indicated on the records. The remainder of Satterly's lecture notes follow and have been arranged by title in alphabetic order. The bulk of these notes are from accession B72-0026 and are filed in boxes 003 - 009. Material from this series exists in B76-0024 also as the subsequent box list indicates.

Copies of some of the laboratory experiments that Satterly used, as well as an index to all of the experiments, exist in this series as well. Also included are annotated textbooks from which some of his lectures were drawn.

Records from two of the four accessions are found in this series.

Accession /Box (File)		Date Range
B76-0024/002 (01) - (06)	Lecture Notes	1913-1957
/001 (06) - (13)	Textbooks	1915-1939
/003 (01) - (03)	Laboratory Experiments	1932-1948
B81-0026/001P(02)	Photoprint of John Satterly delivering his Royal Canadian Institute Liquid Air Lecture	1934

**Series IV                      Problem Sets and Examinations**

Textual; 1902-1957; 1.11 m.

The problem sets in this series were used by Satterly while teaching at the University of Toronto. The files are arranged in chronological order by academic year and term. Annotated examinations are scattered throughout the records. A personal bound copy of all of Satterly's examinations is filed at the end of this series and includes an introductory note by him. These examinations are often heavily annotated. At the end of this series are a number of files of a more general nature on miscellaneous mathematical problems.

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Records from two of the four accessions are found in this series.

Accession /Box (File)		Date Range
B72-0026/010	(01) - (06),	1929-1934
	/011 (01) - (06),	1934-1937
	/012 (01) - (06),	1937-1940
	/013 (01) - (06),	1940-1943
	/014 (01) - (06),	1943-1946
	/015 (01) - (07),	1946-1950
	/016 (01),	1950
	/016 (02) - (04)	Problem Sets [ca. 1939-1950]
B76-0024/003	(04) - (05)	Misc. Problem Sets 1924-1940
B72-0026/016	(05)	Chemistry Problems [ca. 1919-1939]
	/016 (06)	Math Problems 1902-1959
	/016 (07)	64=65 and Greek Cross [n.d]
B72-0026/016	(08)	Geometric Shapes [n.d]
	/017 (01)	Examinations 1913-1931
	/017 (02)	Examination Howlers [19--]

Series V

Research Notes

Textual; 1909-1960 [predominant 1950-1960]; 0.33 m.

After retiring as Faculty from the University in 1950, Satterly continued to spend a great deal of time at the McLennan Laboratory working nearly every day on a variety of problems.

A portion of this series consists of notes taken by Satterly in notebooks entitled "Odds & Ends". This series also contains notes on specific subjects, which interested him including articles and clippings on scientific subjects, as well as an unidentified index to scientific literature. Arrangement is alphabetical with notes entitled "Odds & Ends" preceding.

Records from three of the four accessions are found in this series.

Accession /Box (File)		Date Range
B72-0026/018	(01) - (04)	Odds and Ends 1954-1960
	/018 (05),	1950-1958



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/019 (01)-(06)	Miscellaneous Subjects	1909-1962
/019 (07)-(08),		1909-1963
B81-0026/001 (07)-(08),	Articles and Clippings	1934-1955
B72-0026/019 (09)	Index to Literature	[n.d]

**Series VI**                      **Manuscripts and Publications**

Textual ; graphic; 1917-1963; 0.13 m.

This series contains Satterly's publications arranged chronologically. Included among his many publications is *The Story of the Early Days of the Extraction of Helium Gas from Natural Gas in Canada, 1915-20* [1959], a project which was initiated by McLennan during the First World War, and which Satterly worked on along with H. F. Dawes, Professor at McMaster University; E. F. Burton, Professor of Physics at the University of Toronto; John Patterson, of the Canadian Meteorological Department and graduate in Engineering from the University of Toronto; and R. J. Lang, student assistant (later Professor of Physics at the University of Alberta). Along with the copy of this work are the negatives of the plates, which were included in the publication.

Records from all four accessions are found in this series.

For a listing see Appendix I.

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Appendix I

Series VI Manuscripts and Publications

Accession/Box(File)	Title	Date
B93-0048/001 (14)	With R.T. Elworthy. "The Radioactivity of Some Canadian Mineral Springs." <u>Transactions of The Royal Society of Canada</u> , XI, III (1917), 17-26.	1917
/001 (15)	With J.C. McLennan. "The Radioactivity of the Natural Gases of Canada." <u>Transactions of the Royal Society of Canada</u> , XII, III (1918), 153-160	1918
B81-0026/001 (09)	"Radiation and the Temperature of the Sun." <u>The Journal of the Royal Astronomical Society of Canada</u> , (February, 1919), 33-44.	1919
/001 (10)	"A Simple Apparatus for Illustrating the Aberration of Light." <u>The Journal of the Royal Astronomical Society of Canada</u> , XIV, 3 (April, 1920), 89-92.'	1920
/001 (11)	"Sir J. Norman Lockyer." <u>The Journal of the Royal Astronomical Society</u> , XV, 2 (February, 1921), 45-56.	1921
B76-0024/003 (06)	"The Hatchet Planimeter." <u>The Journal of the Royal Astronomical Society of Canada</u> , XV 6 (July-Aug, 1921), 221-243.	1921
/003 (07)	"Note on Stirling's Theorum." <u>Trans of the Royal Society of Canada</u> , III (1923), 191-193.	1923
B81-0026/001 (12)	"The Upper Atmosphere." <u>The Journal of the Royal Astronomical Society of Canada</u> , (September, 1923), 291-301.	1923
/001 (13)	"Address of the President." <u>Transactions of the Devonshire Assoc. for the Advancement of Science, Literature, and Art</u> , lxvii (1935), 35-73.	1935
/001 (14)	"The Physical Properties of Solid and Liquid Helium." <u>Reviews of Modern Physics</u> , 8 (October, 1936), 347-357.	1936
/001 (14)	"Obituary Notice: Sir John Cunningham McLennan." <u>Proceedings of the Physical Society</u> , 48 (1936), 924-928.	1936

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Accession/Box(File)	Title	Date
B81-0026 /001 (14)	With J.R. Levitt. "A Study of the Phenomena Associated a Vertical Jet of Mercury." <u>Transactions of the Royal Society of Canada</u> , XXX, III (1936), 129-133.	1936
/001 (14)	With J.R. Levitt. "Parabolic Water Jets." <u>Transactions of the Royal Society of Canada</u> , XXX, III (1936), 137-143.	1936
/001 (15)	"Observations on the Objectives and the Teaching of Physics in England and Canada." <u>The American Physics Teacher</u> , 7, 1 (February, 1939), 1-9.	1939
/001 (15)	"The Postprandial Proceedings of the Cavendish Society. II." <u>The American Physics Teacher</u> , 7 (August, 1939), 244-248.	1939
B93-0048/001 (16)	"The Application of the Barometer in Physics and Chemistry." <u>Journal of the Royal Astronomical Society of Canada</u> , XXXVIII (January, 1944), 31-40.	1944
B81-0026/001 (16)	"Ball Pendulum Impact Experiments." <u>American Journal of Physics</u> , 13, 3 (June, 1945), 170-174.	1945
/001 (17)	"Pendulums with Clamped or Loose Hangers." <u>American Journal of Physics</u> , 14, 5 (Sept-Oct, 1946), 316-318.	1946
/001 (18)	"Transverse Waves in Plane Soap Films." <u>Transactions of the Royal Society of Canada</u> , XLI, III (1947), 55-61.	1947
B72-0026/001 (31)	Bubbles with a Sugar Solution. [195-] Manuscript.	
B81-0026/001 (19)	"Some Experiments in Dynamics, Chiefly on Vibrations." <u>American Journal of Physics</u> , 18, 7 (Oct, 1950), 405-416.	1950
B72-0026/001 (32)	"C.V. Boys' Rainbow Cup and Experiments with Thin Films." <u>American Journal of Physics</u> , 19, 8 (November, 1951), 448-451.	1951
B81-0026/001 (20)	"Leonardo Da Vinci and the Center of Gravity of a Tetrahedron." <u>The Mathematics Teacher</u> , XLV, 8 (December, 1952), 576-577.	1952

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Accession/Box(File)	Title	Date
B81-0026 /001 (21)	"Trigonometry and the Practical Descriptive Geometry of Oblique Planes." <u>School Science and Mathematics</u> , (October, 1954), 539-555.	1954
/001 (21)	"Hydrodynamical Models of Radioactive Transformations." <u>American Journal of Physics</u> , 22, 7 (October, 1954), 1-2.	1954
/001 (22)	"On Looking Through A Glass Plate Obliquely." <u>American Journal of Physics</u> , 23, 3 (March, 1955), 176.	1955
/001 (22)	"Rate of Rise of Small Air Bubbles in Water." <u>American Journal of Physics</u> , 23, 6 (September, 1955), 387.	1955
/001 (22)	"Ring in the Porridge Boiler" and "Postscript to Note on the Ring in the Porridge Boiler." <u>American Journal of Physics</u> , 23, 8 (November, 1955), 547.	1955
/001 (22)	"Vibrational Dynamics with Lenses, Mirrors, and Prisms." <u>American Journal of Physics</u> , 23, 9 (December, 1955), 562-581.	1955
/001 (22)	"The Morley Triangle and Other Triangles." <u>School Science and Mathematics</u> , (December, 1955), 685-701.	1955
/001 (23)	"Equilateral and Other Triangles Associated with Triangles." <u>School Science and Mathematics</u> , (January, 1956), 11-20.	1956
/001 (23)	"Running Water." <u>American Journal of Physics</u> , 24, 6 (September, 1956), 463.	1956
/001 (23)	"Vibration Experiment with Ice And Water." <u>American Journal of Physics</u> , 24, 7 (October, 1956), 527-528.	1956
/001 (23)	"Casual Observations on Milk, Pickled Beet-Root, and Dried-up Puddles." <u>American Journal of Physics</u> , 24, 7 (October, 1956), 529-530.	1956
/001 (23)	"The Circumcircle, the Incircle, the Nine-Points Circle and the Circle Through the Feet of the Bisectors of the Angles of the Triangle." <u>School Science and Mathematics</u> , (October, 1956), 517-528.	1956

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Accession/Box(File)	Title	Date
B81-0026 /001 (23)	"The Plan and Elevation of a Cube Standing on a Vertex with a Long Diagonal Vertical, Also of a Rectangular Block in a Similar Position." <u>School Science and Mathematics</u> , (November, 1956), 655-661.	1956
/001 (23)	"Meet Mr. Tau." <u>School Science and Mathematics</u> , (December, 1956), 731-741.	1956
/001 (24)	"Another approach to the nine-point circle." <u>The Mathematics Teacher</u> , L, 1 (January, 1957), 53-54.	1957
/001 (24)	"Reminiscences in Physics from 1894 Onwards." <u>American Journal of Physics</u> , 25, 5 (May, 1957), 288-300.	1957
/001 (24)	"Meet Mr. Tau Again." <u>School Science and Mathematics</u> , (February, 1957), 150-151.	1957
/001 (24)	"A Theorem of Related Triangles, the Centers of Gravity of a Full and a Skeleton Triangle." <u>School Science and Mathematics</u> , (May, 1957), 367-374.	1957
/001 (24)	"Moments of Inertia of Solid Rectangular Parallelopipeds, Cubes, and Twin Cubes, and Two Other Regular Polyhedra." <u>American Journal of Physics</u> , 25, 2 (February, 1957), 70-78.	1957
/001 (24)	"A Note of Transversals in Triangles." <u>School Science and Mathematics</u> , (June, 1957), 479-484.	1957
/001 (24)	"Moments of Inertia about Selected Axes of Regular Polygons, Right Pyramids on Regular Polygonal Bases, and of the Platonic and Some Archimedian Polyhedra." <u>American Journal of Physics</u> , 25, 7 (October, 1957), 489-490.	1957
/001 (24)	"Some Effects on Swirling Water." <u>The School Science Review</u> , 137 (Nov, 1957), 83-87.	1957

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Accession/Box(File)	Title	Date
B81-0026/001 (25)	"The Breakfast Egg." <u>American Journal of Physics</u> , 26, 5 (May, 1958), 341.	1958
(25)	"Moments of Inertia of Plane Triangles." <u>American Journal of Physics</u> , 26, 7 (Oct, 1958), 452-453.	1958
/001 (26)	<u>The Story of the Early Days of the Extraction of Helium Gas from Natural Gas in Canada, 1915-1920.</u> (Ottawa: Department of Mines and Technical Surveys, April 1959).	1959
/001P(03)	Negatives removed from above publication.	
/001 (26)	"Eggs and Physics - Class Experiments: Part I." <u>The School Science Review</u> , 141 (March, 1959), 302-311.	1959
/001 (26)	"Eggs and Physics - Class Experiments: Part II. The Moments of Inertia of Hen's Eggs." <u>The School Science Review</u> , 142 (June, 1959), 437-442.	1959
/001 (27)	"Formulae for Volumes, Surface Areas and Radii of Gyration of Spheres, Ellipsoids and Spheroids." <u>Mathematical Gazette</u> , XLIV, 347, (February, 1960), 15-20.	1960
/001 (27)	"A Problem with Touching Circles." <u>The Mathematics Teacher</u> , LIII, 2 (February, 1960), 90-95.	1960
B93-0048/001 (17)	Obituary Notice: Sidney George Burrow.	[1960?]
B72-0026/001 (31)	Velocity of Water Waves. Manuscript.	[1960?]
B81-0026/001 (28)	"The vibrations of catenaries." <u>Bulletin of the Institute of Physics and the Physical Society</u> , (February, 1963), 30-33.	1963
/001 (29)	<u>The Postprandial Proceedings of the Cavendish Society. I.</u>	[n.d]

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Appendix II

<b>Accessions</b>	<b>Series Included</b>
<b>B72-0026</b>	Biographical and Personal Files Education Lecture Notes Problem Sets and Examinations Research Notes Manuscripts and Publications
<b>B76-0024</b>	Biographical and Personal Files Education Lecture Notes Problem Sets and Examinations Manuscripts and Publications
<b>B81-0026</b>	Biographical and Personal Files Education Research Notes Manuscripts and Publications
<b>B93-0048</b>	Biographical and Personal Files Education Manuscripts and Publications