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## **WIL**

Collection of mathematical notebooks of M.M.U. Wilkinson.  
ca.1851-1916

ARCH:WIL

INTRODUCTION

Collection of mathematical notebooks of M.M.U. Wilkinson. ca.1851-1916. Wilkinson was educated at Trinity College, Cambridge, and was fellow and assistant tutor 1855-1865. He was rector of Reepham St. Mary near Norwich from 1864. The books, some of which contain loose sheets, include notes and worked problems from his Cambridge studies in the 1850s; Senate House and other examination problems, 1861-65; draft essay for Adams Prize, 1869; commentaries on mathematical books and papers; investigations into elliptic functions, spherical functions, Gauss's series and quaternions, ca.1870-1910. They also include some elementary work by his daughters, Maud and Geraldine, in the 1880s. 68 vols.

SECTION I : EARLY PAPERS (Vols.1-10)

Since the earliest volumes are partly undated they have been arranged according to subject rather than chronologically (algebra, geometry, calculus, mechanics, optics, astronomy).

- |    |           |  |
|----|-----------|--|
| 1. | 1851-1852 | MATH. MSS. BK. III<br>Problems 1-110<br>pp.1-93<br><br>[BK. I & BK. II<br>apparently wanting]  |
| 2. | 1851-1862 | ALGEBRA AND THEORY<br>OF EQUATIONS<br>Problems 1-175<br>pp.1-123   |
|    | 1874-1875 | [Also] Bertrand<br>Calcul. Diff1. Cap.<br>VII-Liv. II, Cap. II<br>[contd from vol.3,<br>contd in vol.57]<br>Notes on articles<br>182-308<br>pp.124-155 |

- 1851-1855 PROBLEMS IN EUCLID &  
 GEOML. CONIC  
 SECTIONS  
 See vol.46
- 1851-1858 ANAL. GEOM. of 2  
 DIMENSIONS  
 See vol.51
- 1853-1859 ANALYTICAL PROBS IN  
 SOLID GEOMY.  
 See vol.36
- 1851-1856 PL. & SPHER.  
 TRIGONOMETRY  
 See vol.35
3. [185-] DIFFL. CALC. MSS.  
 TANGENTS TO CURVES.  
 INTEGRAL CALCULUS  
 Study notes with  
 table of contents  
 pp.1-73
- 1874 [Also] Bertrand  
 Calcul. Diff. Cap.  
 I-VI [contd in  
 vol.2)]  
 Notes  
 pp.74-100
- [185-] [Also] Conclusion of  
 Planetary Theory  
 [contd from vol.7]  
 Study notes  
 pp.1'-18'
4. 1852-1873 EX. IN DIFFL. AND  
 INT. CALC. DIFFL.  
 EQNS. AND  
 FN.  
 DIFF  
 Problems 1-186

- pp.1-116
- 1874 [Also]  
Kugelfunctionen I.  
Notes on Heine's  
Hdbch der  
Kugelfunctionen \_1-2  
p.116
- 1881-1882 [Also notes on  
Todhunter's  
Laplace's functions  
articles 7-39]  
pp.116-138
- [185-] CALCULUS OF  
VARIATIONS  
See vol.10
5. [185-] STATISTICAL MSS.  
Study notes 1-4  
pp.1-54
- 1899-1903 [Also] Halperin (I).  
Notes on Halperin's  
Traité des fonctions  
élliptiques pp.1-16  
pp.λφ1-  
15
- [Also Cavendish on  
whist]  
3pp
6. [185-] DYNAMICS OF A  
PARTICLE MSS.  
Study notes  
pp.1-46
- 1907 [Also] Note to  
Cayley. Note on  
Cayley's Elliptic  
functions article  
131, p.104  
pp.45-48
- [185-] DYNAMICS OF A RIGID  
BODY MSS.  
See vol.61
- [185-] HYDROSTATICS AND  
HYDRODYNAMICS MSS.

- See vol.60
7. [185-] NEWTON SECTIONS IX,  
 XI; LUNAR THEORY  
 [Lunar Theory,  
 pp.41-62; Planetary  
 Theory, pp.64-92,  
 contd in vol.3]  
 Study notes  
 pp.1-92
8. 1852-1880 ASTRONOMY &  
 MECHANICAL  
 PHILOSOPHY INCLU-  
 DING STATICS,  
 DYNAMICS, ATTRACTIONS  
 & Problems 1-364  
 pp.1-194
- [Also] Spherical  
 Functions I. [The  
 Spherical Functions  
 problems are  
 intermixed with the  
 mechanical problems,  
 and do not have a  
 separate numbering.  
 For Spherical  
 Functions II-IX see  
 vols.60-67]
- [Also 16 printed  
 pages loosely  
 inserted entitled  
 'Problems in Newton  
 & Dynamics']
9. [185-] OPTICS AND OPTICAL  
 INSTRUMENTS MSS.  
 Study notes  
 pp.1-100
- 1899-1912 [Also] Tables for  
 $sn$ ,  $cn$ ,  $dn$ ,  $sn^2$ ,  
 $cn^2$ ,  $dn^2$ . Tables and  
 observations  
 pp.101-107
- 1852-1853 PROBLEMS IN OPTICS  
 See vol.58

10. [185-] ASTRONOMY MSS.  
Study notes  
pp.1-84  
  
[Tables for thK &c  
wanting]

[185-] [CALCULUS OF  
VARIATIONS]  
Study notes  
pp.1-6

N.B. Wilkinson later re-used some of the early volumes.  
Some of these have been placed in Section III in order to  
preserve Wilkinson's own numbering; cross-references to  
such volumes have been provided in Section I

**SECTION II : LATER PAPERS - MISCELLANEOUS (Vols.11-34)**

**These volumes have been arranged chronologically.**

11. [No title: begins  
Liouville's ...']  
1862 [MISCELLANEOUS  
PROBLEMS, INCLUDING  
SENATE HOUSE  
PROBLEMS, 1861-1862]  
unpag.  
  
1867-1868 [Also work for Adams  
Prize essay, 1869.  
For the essay see  
vol.13]  
unpag.

12. 1864-1874 MATH. MSS. 1864  
PROBS. &c DIFFL.  
EQNS. CALC. OF  
VARIATIONS  
Variously numbered  
problems including  
Senate House  
problems  
pp.1-129  
  
1864 [Some] SENATE HOUSE  
PROBLEMS FOR 1864  
See vols.48-49

- 1865 SOME ARRANGEMENTS,  
&c, AND QUESTIONS  
SET IN THE  
MATHEMATICAL TRIPOS  
FOR 1865  
See vol.50
- 1865 SOME SENATE HOUSE  
PROBLEMS FOR 1865  
See vol.47
- [1865?] SOME QUESTIONS SET  
IN AN EXAMINATION  
FOR SHEEPSHANKS  
SCHOLARSHIP  
See vol.50
- 1867-1868 [WORK FOR ADAMS  
PRIZE ESSAY, 1869.  
(For the essay see  
vol.13)]  
See vol.11
13. 1869? AN ESSAY 'ON THE  
DETERMINATION OF THE  
ORBIT OF A PLANET OR  
COMET FROM THREE  
OBSERVATIONS'  
COMPETING FOR THE  
ADAMS PRIZE TO BE  
ADJUDGED IN 1869.  
[For work towards  
this essay see  
vol.11]
- 1873 MATERIALS TO BE  
EMBODIED IN MY  
PUBLISHED BOOK 'OF  
FALSE DISCONTINUITY'  
See vol.47
- 1874 KUGELFUNCTIONEN I  
See vol.4
- 1874-1875 BERTRAND, CALCUL.  
DIFFL.  
See vols.3, 2, 57
14. 1874-1881, 1915 ODD PROBS.  
Problems, including  
nos.1001-17, pp.47-

- 108  
pp.1-108
- 1881-1882 [NOTES ON  
TODHUNTER'S  
LAPLACE'S FUNCTIONS]  
See vol.4
15. 1882-1915 THEORY OF  
PROBABILITIES  
Problems of 1-7  
pp. ch1-18
16. 1885-1894 ALGEBRE SUPERIEURE  
Notes 1-3 on  
Serret's Algèbre  
pp.1-7
17. 1886-1915 NOTES TO PROCEEDINGS  
OF THE LONDON MATHE-  
MATICAL SOCIETY [&  
CAYLEY'S ELLIPTIC  
FNS.]  
Notes 1-5  
pp.1-65
18. 1887-1899 NOTES TO  
MATHEMATICAL WORKS  
ON DIFFL. & INTL.  
CALCS. DIFFERENTIAL  
EQUATIONS AND  
FINITE DIFFERENCES  
VOL.I  
Notes 1-43  
pp.1-150
19. 1899-1900 --- as above ---  
VOL.II  
Notes 44-52  
pp.151-244
20. 1900-1909 --- as above ---  
VOL.III  
Notes 53-60  
pp.245-300
21. 1888 MECHANICS  
Notes 1-11 on  
Routh's Rigid  
Dynamics, art. 8-18



- pp.1-12
22. 1881? 1888 TRIG. PROB.  
INCLUDING TABLES OF  
TRIGONL.RATIOS AND  
... SOLUTIONS OF  
DIFFL. EQNS.  
Problems wanting [by  
Maud F U Wilkinson]  
pp.1-18  
Tables at 3°  
intervals  
pp.19-26
- 1888 Wolstenholme problem  
302, p.65  
p.27
- 1891 Malvern College  
scholarship paper,  
1891 [by Maud F U  
Wilkinson]  
pp.28-32
- Illustrations of De  
Moivre's theorem [by  
Maud F U Wilkinson]  
p.33
- 1912 Differential  
equations 1-2  
pp.34-52
23. 1891-1894 [MISCELLANEOUS  
PROBLEMS VOL.I]  
Problems 1-3  
pp.1-164
24. 1893-1895 [--- as above ---  
VOL.II]Problems 4-8  
pp.164-195
- 1899-1903 HALPERIN (I)  
See vol.5
- 1899-1912 TABLES FOR  $sn$ ,  $cn$ ,  
 $dn$ ,  $sn^2$ ,  $cn^2$ ,  $dn^2$   
See vol.9
25. 1882, 1888 Mechanical Problems.  
Problems [by Maud F

- U Wilkinson]  
irreg.
- 1906-1916  
ON ELEMENTARY  $\wp$ ,  $\zeta$ ,  
AND  $\sigma$  FORMULAE  
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17)  
pp.1-71
26. 1910 A COMMENTARY ON  
NOTES  $\alpha$ ,  $\beta$ ,  
Notes  
pp.1-8
27. 1910 A SECOND COMMENTARY  
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Notes  
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28. 1910 A THIRD COMMENTARY  
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29. 1910 A FOURTH COMMENTARY  
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Notes  
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30. 1910 A FIFTH COMMENTARY  
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31. 1910 A SIXTH COMMENTARY  
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32. 1911 A SEVENTH COMMENTARY  
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- 1907 NOTE TO CAYLEY  
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33. 1909-1913 MATHEMATICAL  
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|-----|------|--|
|     | 1912 | ON SOLUTIONS OF<br>DIFFERENTIAL<br>EQUATIONS<br>See vol.22   |
| 34. | 1912 | INTERNATIONAL<br>CONGRESS OF<br>MATHEMATICIANS,<br>CAMBRIDGE, AUGUST<br>1912. CC NOTES i.e.<br>NOTES TO MY<br>COMMUNICATION<br>Notes CC 1-9<br>pp.1-37 |

N.B. Some miscellaneous later papers occur in volumes which have been placed in Sections I or III; cross-references to such papers have been provided in Section II.

**SECTION III : LATER PAPERS - SYSTEMATIC (Vols.35-67)**

**These volumes have been arranged according to Wilkinson's own numberings, in four sequences (elliptic functions, quaternions, Gauss's series, spherical functions).**

- |     |           |   |
|-----|-----------|---|
| 35. | 1851-1856 | Pl. & Spher.<br>Trigonometry.<br>Problems 1-127<br>pp.1-33                                      |
|     | 1871-1878 | INVESTIGATIONS<br>CONNECTED WITH<br>ELLIPTIC FUNCTIONS I<br>Articles 1-88<br>pp.1001-1078       |
| 36. | 1853-1859 | Analytical Probs. in<br>Solid Geomy.<br>Problems 1-4<br>pp.1-11                                 |
|     | 1878-1881 | INVESTIGATIONS<br>CONNECTED WITH<br>ELLIPTIC FUNCTIONS<br>II<br>Articles 89-124<br>pp.1079-1119 |

37. 1881-1882 --- as above ---  
 III. Articles 125-182  
 pp.1120-1229
38. 1882-1896 --- as above --- IV.  
 Articles 183-210  
 pp.1230-1349  
 [N.B. article and page numbering are continued in vol. 43]
39. 1883-1896, 1901 --- as above --- V  
 (k = -ie)  
 pp.1-109
40. 1896-1897 --- as above --- VI  
 (K = k = -ie)  
 pp.110-203
41. 1887-1888 Algebra. Study notes  
 [by ?]  
 pp.1-9
- 1898-1903 SUNDRY  $\theta$  FUNCTIONS  
 INVESTIGATIONS  $\theta$   
 Notes 1-7  
 pp.10-51, 204-245
- [Also 25 sheets clipped together and numbered CWL 1-22 are loosely inserted]
42. 1907-1913 INVESTIGATIONS  
 CONNECTED WITH  
 ELLIPTIC FUNCTIONS  
 VII (k = -ie)  
 $\sigma$  Notes 1-5  
 pp.204-229
43. Geometrical Conic Sections. [By Maud F U Wilkinson. Wanting]
- 1898 SUNDRY ELLIPTIC AND  
 $\theta$  FUNCTIONS  
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- pp.45-109, 1350-1414  
[N.B. Article and  
page numbering  
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38]
44. 1884-1888 Euclid Problems [By  
Geraldine M  
Wilkinson]  
pp.1-35
- 1898 SUNDRY ELLIPTIC AND  
 $\theta$  FUNCTIONS  
INVESTIGATIONS  
Articles 216-224  
pp.36-100, 1415-1490
45. - Analytical Geometry  
[By ? Wanting]  
pp.1-22
- ?-1909 INVESTIGATIONS  
CONNECTED WITH  $\theta$ ,  
ELLIPTIC AND ABELIAN  
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Articles 225-227  
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46. 1851-1855 Probs. in Eucl. &  
Geoml. Conic  
Sections. Problems  
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- 1872-1873 QUATERNION  
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47. 1865 Some Senate House  
Problems for 1865  
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- 1867 A Chance Problem  
p.50
- 1869 Materials to be  
Embodied in my  
Published Book 'On  
False Discontinuity'  
unpag.

- |     |           |  |
|-----|-----------|--|
|     | 1873      | QUATERNION<br>INVESTIGATIONS<br>Notes 100-136<br>pp.189-233  |
| 48. | 1864      | Some Senate House<br>Problems for 1864<br>unpag.   |
|     | 1873      | QUATERNION<br>INVESTIGATIONS<br>Notes 137-221<br>pp.235-289  |
| 49. | 1864      | Some SEenate House<br>Problems for 1864<br>pp.1-17   |
|     | 1873      | QUATERNION<br>INVESTIGATIONS<br>Notes 222-244<br>pp.290-316  |
| 50. | [1865?]   | Some Questions set<br>in an Examination<br>for Sheepshanks<br>Scholarship<br>unpag.  |
|     | 1865      | Some Arrangements &c<br>and Questions set in<br>the Mathematical<br>Tripos for 1865<br>unpag                               |
|     | 1873-1874 | QUATERNION<br>INVESTIGATIONS<br>Notes 245-277<br>pp.317-343  |
| 51. | 1851-1858 | Anal. Geom. of 2<br>Dimensions, Problems<br>in Analytical<br>Geometry, Tracings<br>of Curves. Problems<br>1-184<br>pp.1-56 |
|     | 1862      | Investigations<br>Relative to Solving<br>Algebraic Equations<br>Notes 1-4<br>pp.57-91                                      |

- 1874-1889 QUATERNION  
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Tree, Row and Line  
Function Problems  
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52. 1890 QUATERNION  
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53. 1890-1891 --- as above ---  
Notes 372-383  
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54. 1891-1892 --- as above ---  
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55. 1893-1894 --- as above ---  
Notes 389-402  
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56. 1896 --- as above ---  
Notes 403-404  
pp.966-977
57. 1875 [No title : begins I  
is evident (Bertrand  
Calcul. Diff1. Liv.  
II, Cap. II)] Notes  
on exx.3-4, p.309  
(contd from vol.2)  
pp.156-172
- 1875-1876 [NOTES ON GAUSS'S  
SERIES I]  
Copy of Gauss's 1812  
paper  
pp.1-41  
Articles GAU 1-34  
pp.42-78
- [Also, loosely  
inserted, are 8pp  
entitled On a Point  
in the Theory of  
Heat; and proof of  
Draft Report of the

- Committee ...  
appointed for the  
purpose of  
considering the  
possibility of  
Improving the  
Methods of  
Instruction in  
Elementary Geometry  
...]
58. 1852-1853 Probs. in Optics.  
Problems 1-33  
pp.1-14
- AND GAU.  
CONTINUATION  
Articles GAU 35-66  
pp.79-117
- [Also 18 drawings  
showing the  
formation of caustic  
curves in optics &c  
are inserted]
59. 1879-1888 GAU p.118-  
Articles GAU 67-92  
pp.118-160
- [Also 13pp. entitled  
Of the Functions  
which present  
themselves in the  
Solution of  
Equations are  
loosely inserted]
60. [185-] Hydrostatics and  
Hydrodynamics MSS.  
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pp.1-74
- 1880 AND SPHERICAL  
FUNCTIONS  
[For Spherical  
Functions I see  
vol.8] Notes 365-366  
pp.195-201
61. [185-] Dynamics of a Rigid  
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		Notes pp.1-43
	1880	AND SPHERICAL FUNCTIONS III Notes 367-370 pp.202-205
62.	1881-1893	SPHERICAL FUNCTIONS IV Notes 371-424 pp.206-309
63.	1883-1887	--- as above --- V pp.1-110
64.	1887-1896	--- as above --- VI pp.111-260
65.	1893-1894	--- as above --- VII. Notes 425-435 pp.310-448
66.	1895	--- as above --- VIII. Note 436 pp.449-540
67.	1908-1911	--- as above --- IX. Notes 437-445 pp.541-574
68.	-	TRACT ON ELLIPTIC FUNCTIONS

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