NOTE

The Mathematical Correspondence of Rudolf Lipschitz

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The scientific estate of the mathematician Rudolf Lipschitz (1832–1903) was given to the University of Bonn by his heirs about thirty years ago. Since then these papers have not been ordered, not even cataloged. The estate includes an extended scientific correspondence which was completely unknown up to now. All together it consists of about 440 letters and postcards addressed to Lipschitz, and 102 letters, drafts, or copies of letters written by him. Today Lipschitz is almost forgotten but during his lifetime he was one of the most prominent and influential German mathematicians; he received many honors and maintained close contact with most of the leading mathematicians in Germany as well as abroad. Of particular importance are the letters by C. W. Borchardt, G. Cantor, R. Dedekind (partially published in [Dedekind 1932]), H. v. Helmholtz, Ch. Hermite (163 letters by Hermite and 69 to him!), L. Kronecker, E. Study, H. Weber, and C. Weierstrass. Main themes of the correspondence are various mathematical questions and problems, appointments of professors at several universities, matters concerning publication of his and others' papers, and, of course, many private and personal concerns. The most interesting part of the correspondence has been prepared by the author for publication as Volume 2 in the series *Dokumente zur Geschichte der Mathematik*. The author will be glad to provide further information on details of the correspondence.

Lipschitz studied in Königsberg and Berlin and wrote a thesis under Dirichlet. Throughout his life he considered himself a student of Dirichlet, who had impressed on him his way of thinking and his approach towards mathematics. He got his Habilitation in 1857 at Bonn, was an *außerordentlicher* Professor in Breslau for two years, and in 1864 became *ordentlicher* Professor at Bonn where he stayed for the rest of his life. His main fields were analysis, differential geometry, and mathematical physics; his secondary fields, number theory and (linear) algebra. He published a basic textbook on analysis and about 95 research papers. For more biographical information, see [Kortum 1906] and [Peschl 1970].

LIST OF CORRESPONDENTS

P. Appell (1855–1930), 2 letters 1887/88

J. L. F. Bertrand (1822–1900), 2 letters 1885/87

E. Beltrami (1835–1900), 6 letters 1872–1880

C. W. Borchardt (1817–1880), 57 letters 1860–1877

G. Cantor (1845–1918), 6 letters 1877–1885

A. Cayley (1821–1895), 2 letters 1878/80

A. Clebsch (1833–1872), 3 letters 1865–1870

W. K. Clifford (1845–1879), 3 undated letters

L. Cremona (1830–1903), 2 undated letters 1885

G. Darboux (1842–1917), 9 letters 1872/92, 3 letters by Lipschitz

R. Dedekind (1831–1916), 13 letters 1861–1894

R. Fleischer (?), 4 letters 1876

Friedlaender (perhaps the chemist Paul Friedländer (1857–1923)), 1 letter 1885

Friedrich, Prinz von Sachsen-Meiningen (1861–1914), 6 letters

L. Fuchs (1833–1902), 3 letters 1892–1897

P. Gordan (1837–1912), 1 letter 1877

J. Hadamard (1865–1963), 2 undated letters

E. Heine (1821–1881), 3 letters 1859/60

H. v. Helmholtz (1821–1894), 23 letters 1856–1886

Ch. Hermite (1822–1901), 163 letters 1877–1900; drafts of the answers to the first 74 letters (until 1885) are also preserved

O. Hesse (1811–1874), 5 letters 1861–1872

J. Hoüel (1823–1886), 6 letters 1872–1876

E. de Jonquieres (1820–1901), 2 letters 1883

C. Jordan (1838–1922), 5 letters 1886

G. Kirchhoff (1824–1887), 1 letter 1861

A. Kölliker (1817–1905), 1 letter 1868

L. Koenigsberger (1837–1921), 9 letters 1868–1880

L. Kronecker (1823–1891), 21 letters 1859–1885, moreover 20 letters by Lipschitz to Kronecker 1868–1885

E. Lemoine (1840–1912), 1 letter 1896, 1 letter by Lipschitz 1896

W. Lexis (1837–1914), 1 letter 1877

P. Mansion (1844–1919), 1 letter 1880

G. Mittag-Leffler (1846–1927), 6 letters 1878–1900

J. Molk (1857–1914), 2 letters 1886/87, 1 letter by Lipschitz 1887

G. Morera (1856–1909), 1 letter 1886

C. Neumann (1832–1925), 1 letter 1868

F. Neumann (1798–1895), 1 letter 1868, 1 letter by Lipschitz 1868

C. le Paige (1852–1929), 2 letters 1878/81

J. Perrot (?), 1 letter 1882

E. Picard (1856–1941), 1 letter 1900

L. Pinto (?), 1 letter 1896

H. Poincaré (1854–1912), 3 letters 1889/92 and undated

P. Riccardi (1828–1898), 1 letter 1879

G. Sabinine (1831–1909), 1 undated letter

E. Schering (1833–1897), 1 letter 1883

E. Schönfeld (1828–1891), 2 letters 1880/90

H. Schröter (1829–1892), 3 letters 1862–1872

H. A. Schwarz (1843–1921), 1 letter 1879

D. E. Smith (1860–1944), 1 letter 1894

M. A. Stern (1807–1894), 2 letters 1884

E. Study (1862–1930), 10 letters 1897–1899

J. J. Sylvester (1814–1897), 10 letters 1872–1889, 2 letters by Lipschitz 1878

R. Virchow (1821–1902), 1 letter 1875

H. Weber (1842–1913), 8 letters 1876–1898

O. Weber (?), 1 letter 1865

W. Weber (1804–1891), 1 letter 1876

C. Weierstraß (1815–1897), 10 letters 1867–1885

REFERENCES

Dedekind, R. 1932. In *Gesammelte Werke*, R. Fricke, E. Noether, Ö. Ore, eds., Vol. 3, pp. 464–482. Braunschweig: Vieweg.

Kortum, H. 1906. Rudolf Lipschitz. *Jahresbericht der Deutschen Mathematiker-Vereinigung* 15, 56–59.

Peschl, E. 1970. Rudolf Lipschitz (1832–1903). In *Bonner Gelehrte: Beiträge zur Geschichte der Wissenschaften in Bonn, Mathematik und Naturwissenschaften*, pp. 17–24. Bonn: Bouvier & Co, Ludwig Röhrscheid Verlag.