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(*b.* Ritzebuttel, near Cuxhaven, Germany, 20 June 1838; *d.* Würzburg, Germany, 2 July 1919)

mathematics.

After schooling in Humberg, Reye studied [mechanical engineering](#) and then mathematical physics at Hannover, Zurich, and Göttingen. He received his doctorate at Göttingen in 1861 with a dissertation on gas dynamics. After qualifying as lecture at Zurich in 1863, he remained there until 1870 as a Privadozent in mathematical physics. Following a short stay in Aachen came his most productive years 1872–1909, when he was professor of geometry at the University of Strasbourg. He remained in Strasbourg until after [World War I](#), when he moved to Würzburg.

In his younger Reye published works on physics and meteorology—for example, a book on cyclones (1872). The two-volume first edition of his *Geometrie der Lage* appeared in 1866 and 1868. He remained faithful throughout his life to the synthetic geometry presented in this work. His interest in geometry had been stimulated by analytical mechanics, and Culmann, the founder of graphic statics, had drawn his attention to Staudt's work on geometry. Staudt's book were considered very difficult to read; Reye's *Geometrie der Lage*, the fifth edition of which appeared in 1923, was easily comprehended.

Reye treated in detail the theory of conics and quadrics and of their linear systems, that of third degree surfaces and some of the fourth degree, as well as many quadratic congruences and aggregates taken from line geometry. He was one of the leading geometers of his time, and he published a great deal on synthetic geometry. His *Geometrie der Lage* is the axial complex of a second-degree surface, and generalized the polarity theory of algebraic curves and surfaces, introducing the concept of apolarity.

Reye was the founder of that portion of projective geometry that E. A. Weiss later called point-series geometry. In a series of writings, Reye treated linear manifolds of projective plane pencils and of collinear bundles or space. Later these investigations were easily interpreted multidimensionally by means of the geometry of Segre manifolds. Reye refused to speak of true geometry when dealing with space of more than three dimensions. He was satisfied to interpret multidimensional relations in P_2 and P_3 , that is, he treated the geometries. In 1878 Reye published a short work on spherical geometry, the only one of his mathematical writings, besides the *Geometrie der Lage*, to appear as a separate publication. An important configuration of twelve points, twelve planes, and sixteen lines in P_3 is named for Reye.

BIBLIOGRAPHY

I. Original Works. Reye's writing include *die Geometrie der Lage*, 2 vols. (Leipzig, 1866–1868), 5th ed., 3 vols. Leipzig, 1923); *Synthetische Geometrie der Kugeln* (Leipzig, 1879); "Über algebraische Flächen, die zueinander apolar sind," in *Journal für die reine und angewandte Mathematik*, **79** (1874), 159–175; and 211–240; **106** (1890), 30–47, 315–329; **107** (1891), 162–178; **108** (1891), 89–124.

II. Secondary Literature. See C. F. Geiser, "Zur Erinnerung an Theodor Reye," in *Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich* **66** (1921), 158–160; C. Segre, "Cenno commemorativo di Reye," in *Atti dell'Accademia dei Lincei* (1922), 269–272; and H. E. Timerding, "Theodor Reye," in *Jahresbericht der deutschen Mathematiker-Vereinigung*, **31** (1922), 185–203.

Werner Burau