Akivis, M. A.; **Rosenfeld, B. A.**
Élie Cartan (1869–1951). Translated by V. V. Goldberg from an original Russian manuscript. Transl. ed. by Simeon Ivanov. (English) ⎹ Zbl 0785.01014 ⎸
Translations of Mathematical Monographs. 123. Providence, RI: American Mathematical Society (AMS). xii, 317 p. (1993).

The book presents life and work of Élie Cartan. Its first chapter is a biography, with glimpses into the family life and relations with mathematicians abroad. The next six chapters offer a description and evaluation of his most important achievements on Lie groups and algebras, projective geometry, Lie pseudogroups and Pfaffian equations, the method of moving frames, Riemannian manifolds, and some more general spaces (spaces with connexions, Finsler spaces, G-spaces). The exposition is historical and detailed, with an emphasis upon Cartan's contribution and its meaning. According to the authors, "Cartan built his scientific research on works of his predecessors, developing their ideas so well that other mathematicians often forgot the original works". The book also contains data on Cartan's life and activities, a list of his publications (211 items) and four appendices: H. Poincaré's report from 1912 on Cartan's papers and three papers by Cartan himself ("On a degeneracy of Euclidean geometry", his speech on the occasion of his 70th birthday, and his lecture "The influence of France in the development of mathematics") – none of which has been included in his "Oeuvres complètes". Prerequisite to prepare such a volume is a substantial knowledge of the subject and persistency in collecting all necessary data which the authors obviously possess. E. g., the bibliography of works quoted in the book consists of 340 items, many of which being in Russian. A really invaluable volume for everyone interested in the roots of modern mathematics.

Reviewer: R.Duda (Wrocław)

MSC:

01-02	Research exposition (monographs, survey articles) pertaining to history and biography
01A60	History of mathematics in the 20th century
01A55	History of mathematics in the 19th century
01A70	Biographies, obituaries, personalia, bibliographies

Cited in **3** Reviews
Cited in **7** Documents

Keywords:

Lie groups; moving frames; differential manifolds

Biographic references:

Cartan, Élie