

Item: **3** of **3** | <u>Return to headlines</u> | <u>First</u> | <u>Previous</u>

MSN-Support | Help Index

Select alternative format: <u>BibTeX</u> | <u>ASCII</u>

MR545552 (80k:01028) <u>Stadler, W.</u> [Stadler, Wolfram] A survey of multicriteria optimization or the vector maximum problem. I. 1776–1960. <u>J. Optim. Theory Appl.</u> 29 (1979), no. 1, 1–52. 01A50 (90C31)

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Author's summary: "In this survey, the history of the subject from 1776 until 1960 is presented. A brief biographical sketch of Vilfredo Pareto is given first. Then, the more or less simultaneous development of the concepts of utility, preference, and welfare theory follows, with results which go back to Hausdorff and Cantor. A brief discussion of the work of Borel and von Neumann as initiators of game theory is included. Each of these areas has developed enough to warrant its own survey; hence, they are reviewed here only insofar as they provide necessary foundations. Thereafter, the concepts of efficiency, vector maximum problem, and Pareto optimality are reviewed in connection with production theory, programming, and economics. The survey is presented within a unified mathematical framework, and the emphasis is on mathematical results, rather than psychological or socio-economic discussion. To enable the reader to draw conclusions without having to obtain each article himself, the results have been presented in somewhat more detail than usual."

Reviewed by Jacques Dubois

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