

Problématique-Two Questions on the History of Function

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The concept of function is undoubtedly occupying a crucial place in modern mathematical culture. Consequently, there is a great interest in its epistemological, historical and didactical penetrations in the nature, the character, the development and the understanding of function and of functional way of thinking.¹

The relevant studies are generally limited in the narrow mathematical context², giving no light to the pragmatic aspect of function.

The eminent philosopher Ernst Cassirer (1874-1945) has repeatedly hinted, in his work, the relation between function and physical law³. The didactician Michael Otte has also pointed out that connection⁴. So, the following question evokes:

Which have been the interactions of the concept of function and physical law in the history of scientific thinking?

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¹ Harel, G. and Dubinsky, E. (eds.): *The Concept of Function. Aspects of Epistemology and Pedagogy*, Mathematical Association of America, 1992.

² Kleiner, I.: Functions: Historical and Pedagogical Aspects, *Science & Education*, 2(2), 1993, pp. 183-209.

³ Cassirer, E.: *Substance and Function and Einstein's Theory of Relativity*, Dover Publ., 1953, p. 267.
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⁴ Otte, M.: Funktion, *Europäische Enzyklopädie zu Philosophie und Wissenschaften*, H.J. Sandkühler(Hrsg.), Bd.2, Hamburg 1990, pp. 211-214.

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That historical problématique evokes the following didactic question:

In which way the historical understanding of the interaction between the function and physical law can help the didactic cohesion of mathematical education and the culture of physics?

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