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MATHEMATICS AND ECONOMICS: USE, MISUSE, OR ABUSE?
From Walrasian Deductivism to Demaria's Hypothetical Inferences

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The development of a mechanistic analytical approach – since mid-19th century to WWI, and beyond – is a well-known story in European economic thought, the story of Cournot, Jevons, Walras, Edgeworth, Pareto, and many others. We could refer to this tradition as "mathematical deductivism", i.e. the use of mathematics as a demonstrative tool, which implies plenty of axioms and theorems, generally connected to maximizing behaviours.
But along the 20th century, both the diffusion of more sophisticated mathematics and 'political' circumstances – mainly the Keynesian claim to build workable theories – opened a new phase, the "mathematical descriptivism": mathematics started to be used to give form to the economic matter, and to satisfy the simplest requirements of economic policy as well.
Contrary to these vulgatae, a third use of mathematics could be anyway suggested, the approach based on "multiple indeterminations". Within such a framework, economic dynamics is treated in more and more flexible ways by n degrees of freedom, so reflecting the stochastic complexity of the economic reality. To carry out this task, the paper goes through the work of three Italian pioneers of the 20th century (Demaria, Brambilla, De Finetti) analyzing the interactions between social exogenous variables and their endogenous effects.