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# Computers as communication machines - Highlights of a forgotten program

Felice Cardone\*<sup>1</sup>

<sup>1</sup>Università di Torino, Dipartimento di Informatica – Italy

## Abstract

The conception of computers as calculating machines has been at the roots of many important approaches to the study of computational phenomena, a primary example being the classical theory of recursive functions. However, computers have become an integral part of a vast range of coordination patterns among human activities which go far beyond calculation. Precisely these aspects are the focus of the approach to the conceptual role of computers pioneered by Carl Adam Petri (1926-2010) and Anatol W. Holt (1927-2010), two computer scientists best known for their contributions to the subject of Petri nets, a graphical formalism for describing systems of events distributed in space and constrained by relations expressing their causal dependence. The metaphor that guided their work sees computer as a "general medium for strictly organized information flow" (Petri), a "communication machine" (Holt) in the context of a specific organized activity. We highlight some programmatic points arising from this metaphor, extracting them from the relevant works of Petri and especially of Holt with the aim of contributing to the rediscovery of their insights.

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\*Speaker