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Hayek's says that the market price system is a virtual computer that does what no human can do. Is this claim literal or metaphorical?

Hayek compares the role of *price* as a signal between individual economic agents acting within their limited boundaries of knowledge to “a system of telecommunications which enables individual producers to watch merely the movement of a few pointers,”—which, as Hayek claims, is “more than a metaphor.”

Considering the individual agents as a unit of a decentralized computer of the economic system, is akin to describing the human race as a pan-global “brain,” remembering history and advancing boundaries of knowledge by the incentivized or self-motivated actions of an individual human. The comparison itself *is* metaphorical, but in a broader definition of “computer” (presumably not invented in Hayek’s time) it may approach a literal description. Distributed computing systems for, e.g., permanent ledgers (*blockchain*) or cryptography (*Web of Trust*) exist in which each node only have the knowledge of surrounding nodes and some general parameter (hash rates, cryptographic signatures), yet as a whole can execute programs designed for a purpose (*the Ethereum computer, the Public Key Infrastructure*) are described as a computer as a whole.

In this sense the price mechanism is a *literal* computer—its components the individual actors adjusting to smaller changes in production and consumptions, only aware of the parameter of price, to adjust actions accordingly, who in total computes the equilibrium point (optimal or not) of the economic system. The economist, then, would fit the role of the designer of this decentralized system, specifying protocols for communication and mechanisms for propagation of price information.

(245 words)