

SCIENTIFIC KNOWLEDGE SYSTEMS AND LONG TERM
SOCIAL CHANGES : A CIVILIZATIONAL PERSPECTIVE

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The social context, affects science at primarily three levels. One is at the level of the immediate peer group of scientists as demonstrated by several studies of the 'Social Construction of Science' school. Secondly, the direction of science is influenced by higher level environmental factors such as priorities on funding and influences of geopolitics. At a third level, macro socio-economic factors such as say due to the emergence of a new mode of production (as in Newton's age) or an allpervasive defeatist zeit geist (such as in the Weimer Republic of Germany, at the time of the birth of Quantum Physics) are associated with major scientific changes.

Social forces operating at these three levels influence the direction of science. The model of scientific knowledge that emerges from this perspective is of a tree that branches out and unfolds in different directions corresponding to particular socio-economic changes. The tree is but a particular tree which corresponds to the particular social processes that have actually operated in a given historical context.

In addition to this particularistic aspect, scientific knowledge also has a universal aspect corresponding to its explanatory potential. It is posited here that if scientific traditions are allowed to develop in isolation in different civilizational milieus through the unfolding of particular socio-economic forces, different knowledge trees would result. This general civilizational perspective is further explored in the paper and some general conclusions are drawn on the nature of multidisciplinary commensurability of different knowledge systems and the future direction of a given scientific tradition.