Chapter VIII

The Evolutionary Model: Selection and Progress of Knowledge

The Knowledge Society

It is often heralded that we live today in the “knowledge economy” and the “knowledge society.” It has become quite a traditional endeavor to divide the history of human progress into three main phases: the agrarian economy, the industrial economy, and the contemporary economy. The agrarian economy was based on labor and land, the industrial economy on labor and capital, and the contemporary economy on labor and knowledge.

But this is only part of the story. The agrarian society depended for its survival not only on the land in which crops were grown and animals husbanded. To be successful and to avoid sudden periods of famine, the agrarian society depended on a varied, albeit rudimentary, amount of knowledge. Agrarian economies depended on knowledge of climatic changes and a degree of understanding of lunar and solar phases. They depended on some knowledge of
mathematics, geometry, architecture, and engineering to build irrigation canals, roads for the transport of foodstuff, warehouses to store food surpluses, and an understanding of the patterns of the flooding of the rivers on the shores of which they built their villages and cities. They depended on knowledge of geology, zoology, and botany to understand how to plant and care for seeds, how to rejuvenate and irrigate the soil, how to husband animals, and how to use plants and animal products for habitation, clothing, defense, and other functions of a primitive society.

The Biblical story of Joseph, son of Jacob who translated Pharaoh’s dream of the seven lean years, is an illustration of the need for knowledge of the cycles of the flooding of the river Nile, and the knowledge necessary for planning, harvesting, and storing excess foodstuff for the upcoming “lean years” to avoid massive hunger.

The industrial revolution introduced the role of capital and the decline in the importance of land. Factories could be built on limited tracts, even within city boundaries. New types of knowledge were now required to run these factories, to obtain and transport raw materials, to finance these ventures, and to bring the finished products to the consumer in the marketplace. The industrial economy was dependent upon a set of constraints: limited capital, raw materials, and skilled labor. There were also constraints of competition, risks to production and to commerce, and the intricacies of the political and social environments within which industries had to function. All of these brought about the decline in the need for knowledge of nature and the rise in the need for knowledge about the economic, social, and production dimensions of the emerging social and economic arrangements of the industrial age.

The constraints and demands of the industrial age were also the driving force behind the rise in the diffusion of such diverse types of complex knowledge. The industrial age produced massive public and privately funded education and training of the new cadres of skilled labor and the producers of the increasingly complex knowledge necessary for the growth and maintenance of these industries.

So, what is different about the contemporary “knowledge society” and the “knowledge economy”? Six factors constitute the variables that explain the increasingly cardinal role that knowledge plays in our world today:

1. The sheer volume of knowledge—both technical and other—being produced and exchanged is almost beyond grasp. The rate of production of human knowledge is breathtakingly accelerating on a daily basis.
Measuring the Influence of Expertise and Epistemic Engagement to the Practice of Knowledge Management