MSRPs (manufacturer's suggested retail price) or product introductions – 'all of which are supply-side variables'.

In another set of experiment set to test the strength and resilience of our moral standards, Ariely argues that the tendency to cheat small is as irresistible as a cold drink on a hot sunny day, even to the educated and honourable undergraduates from the Harvard Business School. Interestingly enough, he finds out that restoring our moral balance can be as simple as being reminded of the ten commandments. A discovery that dealing with real money makes us more honest is presented through a rather entertaining and almost funny experiment in which Ariely sneaked in the MIT dormitories to leave packs of coke in the communal refrigerators. He placed coke cans in every fridge except for one, where he left the equivalent price in one dollar bills. By the next day, as you can probably predict, Ariely found that all coke cans were missing, but the one dollar bills were left untouched. The implications of such findings trigger thoughts that go far beyond the frivolousness of the experiment itself. In today's high-tech world, where the variety of electronic transactions increases exponentially and we get further removed from dealing with actual money, Ariely is apprehensive of creating an environment that 'might make it easier for people to be dishonest – without ever questioning or fully acknowledging the immorality of their actions'.

Having started Ariely's book, one finds it hard to stop reading. After finished it, one finds it hard to stop playing 'hide and seek' with his/her own irrationality. An engaging read for people with different backgrounds – from a local bookstore manager to a company CEO, and from a physics Ph D student to an aging professor in economics, the book will take you on a journey within yourself. It will strip you of your belief that the human capacity for reasoning is limitless by providing much evidence that 'we are pawns in a game whose forces we largely fail to comprehend'. But it will also reinforce your belief that human capacity to learn is, in fact, limitless. All you have to do is follow Ariely in his discovery of the order and predictability in our irrationality, and read through the numerous ways in which the self-awareness and understanding of these patterns of irrational behaviour can serve as a starting point of positive change in our personal, social and professional life. So, next time you see the 'free' sign, first run to the bookstore and get *Predictably Irrational*. Oh, wait a minute. If you get two copies, you'll get a free leather book marker. I say, go for it!?!

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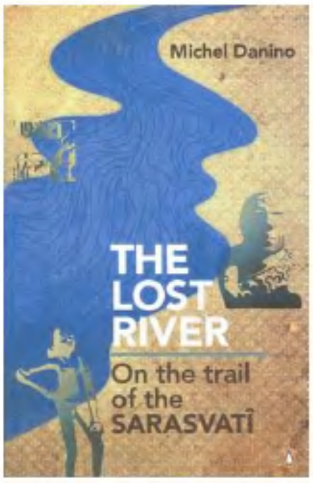

The Lost River – On the Trail of the Sarasvati. Michel Danino. Penguin Books India Pvt Ltd, 11 Community Centre, Panchsheel Park, New Delhi 110 017. 2010. 357 pp. Price: Rs 399.

This book is about the legendary, mythical river Sarasvati and the human civilization it sustained from about 5000 to about 1300 BCE in the northwestern part of India. Although the existence of this first Indian civilization, known as the Indus or Harappan civilization was well known, that of the now defunct river Sarasvati, particularly its geographic location, source and mouth, has been always debated. This has rightfully resulted in research on various scientific and historical aspects and excavation of the region for 200 years.

Michel Danino has painstakingly gathered a large pool of facts and information from multiple sources such as geology and climate of the region, gazetteer, legends – puranas – traditional folklore, literature and archaeology and carefully connected all the data to convince a serious reader that the river Sarasvati is not mythical at all; it did exist and flowed from the Himalaya to the Rann of Kutch for sometime in the early Holocene and dried up in the time interval between 3000 and 1900 BCE. The river could have followed any course from near the west of the Aravalli ranges all the way to the Sutlej side of the Indus River. When it followed the present ephemeral Ghaggar River (in Punjab, Haryana and Rajasthan) and invisible Hakra (in the Cholistan desert part of Pakistan), the first Indian civilization started well before 5000 BCE, evolved into a mature urban culture between 2700 and 1900 BCE and witnessed a collapse of the urban phase between 1900 and 1300 BCE. During the early phase, the river was apparently flowing from the Himalayan source all the way to the sea because of large meltwater supply through the Yamuna and Sutlej tributaries. When the two tributaries deserted the Sarasvati to become tributaries to the Ganga and Indus systems respectively, for tectonic reasons the flow in the Sarasvati reduced. The river suffered further reduction of water supply because of the onset of aridity in this region, resulting in the near-complete desiccation of the river for most parts and for most part of the year. Only in the Himalayan foothill region, the minor tributaries of remnant Ghaggar have some flow during the monsoon.

In the NW parts of India, although the early excavated archaeological sites such as Mohenja-daro, Harappa and Mehrgarh were located on the bank of the Indus River, a large percentage of the sites excavated so far is located along the palaeo-channel system of the Sarasvati (Ghaggar–Chautang–Hakra). This observation correctly prompted the author to rename the first Indian civilization as Indus–Sarasvati civilization, rather than only Indus civilization. Various aspects of the Indus–Sarasvati civilization are described, including civic order and town planning, arts and crafts, agriculture, architecture, and iconography and script, and have been compared with the historical and present ones to show that the prevailing 'Ganges civilization' is only a new avatar of the Indus–Sarasvati civilization. The suggestion of the author that various geological, climatic, agricultural, urbanization, land and water-use practices and ecological degradation aspects

leading to the disappearance of the river Sarasvati and its associated civilization need to be studied and documented in greater details so that the future of our Ganges civilization could be better understood, is a welcome one and worth serious consideration.

The book has been written in three parts. The first part has three chapters, wherein the author has gathered available historical/Puranic/mythological legends/literature/gazetteer and geological information and presented them almost convincingly that the present-day Ghaggar River is what was left of the once mighty river Sarasvati. It was mighty because it had included two high Himalayan tributaries, the Yamuna to the south and Sutlej to the north. The combined effects of tectonic activity of the region around 3000 BCE and reduced rainfall due to increasing aridity around the same time caused the desiccation of the Sarasvati. Although these causes are in the regime of possibilities, they do not answer questions such as: (i) Why did tectonic activity affect only this major river system in this part of the Himalaya? and (ii) Why did the first Indian civilization start and flourish along the banks of this river flowing along the desert margin? A more incisive discussion could have brought out the greater importance of the role of climate change for the drying up of a major river system flowing along a climate-sensitive region.

A statue of goddess Sarasvatī (Gangaikondacholapuram temple, Tamil Nadu); the *kamandalu* (water pot) in her upper left hand symbolizes the river, while the palm-leaf manuscript in her lower left hand represents the Veda, the inspired Speech (*vāch*).

After locating the river geographically, in the second part the author traces the Harappan civilization in space and time and describes it in great detail. An important aspect of the Harappan civilization, as pointed out, is its regionally extensive nature, i.e. not restricted to only the Sarasvati–Indus rivers, and the international trade the Harappa carried on with import of raw materials from and export of processed goods to several West Asian civilized worlds. With a set of good time-dependent site distribution maps, the Harappan civilization has been shown to have evolved in three phases, rural–urban–rural, in about four millennia. Two aspects of this first Indian civilization need a mention: (i) There was apparently a high degree of civic order in the mature urban phase, and (ii) there is no evidence of military, royalty, invasion or any violent conflicts. The latter aspect is not well supported with the information provided. It certainly needs more data and discussion.

The last chapter in the second part discusses the likely causes for the collapse of this great civilization. For the Sarasvati part, the author has interestingly combined climate change (urbanization and onset of aridity probably worked together in a feedback manner) and socio-economic turmoil arising out of water and land use – a clarion call indeed for the ongoing developmental activities in India today! As for the Indus domain, the author proposes frequent flooding of rivers, notably Sutlej, probably due to tectonic activity in the region. It is indeed surprising that drought and flooding worked together in this particular region to cause the collapse and dispersal of this civilization. However, it must be realized that the cause(s) of civilizational disappearance was one way or the other connected to the dynamic history of rivers. The earlier we realize this interconnection, the better and longer the survival potential of our Ganges civilization.

Part three of the book deals with the important question 'If Ganges civilization was built upon Harappan legacy, and if so, how much of a legacy?' By comparing the similarities in architecture, town planning, weights and scales, technology and crafts, the Brahmi script and the religious symbols of Harappan and Gangetic civilizations, the author concluded that: (i) Indianness started with Harappans, (ii) Harappans were Rig Vedic people and (iii) the present Ganges civilization is a new avatar of the Indus–Sarasvati civilization. The discussion to counter the various arguments of several earlier workers to negate the existence of the Sarasvati River in the geographic domain of present-day Ghaggar and its mightiness makes interesting reading for those who believe in the complexities of nature.

Overall, the book is well written, in simple English, with few typographic errors. It provides a wealth of details on various aspects of our first civilization. These details are useful not only for historians, but also for earth scientists who want to do research on the life history of a major river as well as climate history of the region through which it flowed during the Holocene. Only when it comes to the causes of river desiccation and collapse of its civilization, some biased opinion has been expressed. During the late phase with a high degree of aridity, the Harappans seem to have migrated northeastward, upstream of the Sarasvati River towards the Himalayan foothill region. This is the direction in which the rainfall increases even today, in addition to the orographic contribution to rainfall. It also suggests the dominant role of climate in the creation and destruction of human civilization.

If the Harappans wanted only water for their survival, they could have moved a few tens of kilometres northward where there are many perennial rivers. Admittedly, the causes are complex, as was also pointed out by the author when he wrote, 'we do not know for sure'. Obviously the history of the earth and its life, even for the past 10,000 years, is complex and its understanding requires all the present and future human skill and knowledge. The author has definitely succeeded in convincing a serious reader of this book to the fact of nature.

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