

## Editorial

We are very pleased to present this issue of *IJHS*, based on an exciting seminar entitled: The Indian Heritage- a Genomic View, that Dr Partha Pratim Majumder, FNA, Director, National Institute of Biomedical Genetics, Kalyani, organized during 8-9 October 2015 at the Indian Institute of Chemical Technology, Hyderabad. The seminar had a dozen speakers, each focusing on one theme of the Indian Heritage. And they have provided us with papers summarizing their talks at the seminar, and we are delighted to publish their presentations.

There is a subtle difference between heritage and inheritance. This is the reason why experts distinguish between Natural Heritage in one hand and Cultural Heritage on the other. Wikipedia describes natural heritage as that of living forms- an inheritance of flora, fauna, geology, landscape, landforms and other natural resources in a given geographical area. Note here that even landscape and landforms are seen to be the result of living forms (for example the Great Barrier Reef off Australia or the mangroves of the Sundarbans of Bengal). In contrast to this is cultural heritage, which Wikipedia describes as the legacy of physical artifacts and generally manmade objects (for example, Mohenjadaro, Ajanta caves or the Bamiyan Buddhas). Also, while there is the feature of continuity in a natural heritage, a cultural heritage does not have the 'life' that the former has. It is 'inert' and a one-time effort.

Regardless, both natural and cultural heritages have been respected and prided upon by humankind as a whole; thus their recognition as World Heritage sites or objects by agencies such as UNESCO, the Aga Khan Trust and others. This generality and commonality is important and not artificial. Heritages do not know nor recognize national boundaries (which are lines - often temporary- drawn across regions of the globe by man for political reasons). We have thus come to realize

and recognize that Angkor Vat, Amazon Forest, Coral reefs and the Grand Canyon are humanity's treasures and must be preserved for generations to come. History here becomes heritage.

Yet, there is a difference between natural and cultural heritages. Living forms live in environments conducive for their growth and reproduction. There are habitats they live and thrive in, and habitats where they cannot. In very general terms, this is natural selection at play. But when the habitat where they thrive is perturbed, their existence could be in danger. (The effect of global warming is one such threat. And excessive use of antibiotics is another. We now have new multi-drug-resistant microbes attacking us. The influenza virus alone has had several *avatārs* during the present century, and getting more and more worrisome for human and animal health).

Life, if anything, is tenacious. Among the thousands/millions in the population that are being stressed and their lives endangered, there are occasional outliers or mutants which can bear it out, survive and procreate- taking over the relay baton of life, even if somewhat different from the 'normal'; indeed the mutant becomes the normal in that environment. This is a characteristic of natural heritage- never say die, just mutate and carry on; a continuity that does not happen to cultural heritage.

And this continuity is coded or hard-wired into what is called the genome of the organism. The genome is the book of life, written in a four letter alphabet and 64- word set of sentences, and known as the language of the DNA. The genome is a book, with multiple chapters (each referred to as the chromosome: we humans have 46 chromosomes, the elephant has 56, rice 24 and the lotus *japonicas* 6). Each chromosome carries many sentences, each known as the gene. And genes code for the metabolism, growth, longevity and reproduction of the organism.

It is this aspect of natural heritage that Dr. Majumder has chosen to focus in the seminar, and hence the hyphen in the title of the seminar: a genomic view. Natural heritage is thus the heritage of the genomes of the living beings surrounding and interacting with us. And in order to get a feel about their lives, we peek into their genomes to the extent we can read and interpret them.

Each community, society and geographic region is rich in a host of flora and fauna, interacting and enriching the lives of the people living there. The Indian subcontinent has as many as six varieties of climatic subtypes, ranging from the desert, humid tropics, semi-arid zones, rainforests, snowy

mountains, and a vast 4000 km long coastline. And we have been living these regions since millennia. Thus we are truly fortunate in being amidst such a diverse set of plants and animals since ancient times. We deify some of them, offer some of them to the gods as prayer, enjoy some of them, exploit some of them, and live in harmony with many of them. Dr. Majumder has invited some of the best experts in the area and almost all of them have provided the manuscripts of their talks at the seminar. We hope you would enjoy reading each one of these papers. The whole issue is available free on-line at [www.insa.nic.in](http://www.insa.nic.in).

**D Balasubramanian\* & AK Bag\*\***

---

\*Chairman, Editorial Board, *IJHS*, Email: [dbala@lvpei.org](mailto:dbala@lvpei.org)

\*\*Editor, *IJHS*, Email: [akbag99@gmail.com](mailto:akbag99@gmail.com)