



Figure 4.1: *The famed rust-less iron pillar installed in Delhi in about 1233 CE was originally erected as a gnomon in Udaigiri, central India, located on tropic of Cancer. The gnomon, built about 400 CE was designed to cast shadow in the direction of the passage to temples, on summer solstice day. (Photo courtesy R. Balasubramaniam)*

4. Astronomical Heritage: Towards a Global Perspective and Action

Rajesh Kochhar, International Astronomical Union (IAU)

This international symposium is taking place in the 400th year of the chance invention of telescope. The accidental discovery in 1608 of a combination of lenses by the Dutch optician Hans Lippershey may belong to the realm of romance of history. But the next year when Galileo made the world's first designer telescope and turned it skywards, he initiated a revolution the impact of which has gone beyond astronomy and science.

Homo Sapiens is an astronomical species. Ever since humans learnt to walk upright they have looked at the sky and wondered. The sky has remained the same but its meaning as well as significance has continually changed. To begin with, the sky was a divinity to be feared and appeased. It then became a phenomenon to be observed and utilized. And finally now it has been reduced to be an object of study and a laboratory for testing our scientific theories. In the course of time as the human intellect gradually gained sophistication, humankind also reworked its equation with nature. From estimating angles to measuring distances our understanding of the skies has indeed deepened, literally and figuratively.

Astronomy today is at the cutting edge of intellectual enquiry and, at its most glamorous, a child of high technology. But it is more than a branch of modern science. It is a symbol of the collectivity and continuity of humankind's cultural heritage. This mixture of science and culture is astronomy's strength as well as dilemma. Strength, because support for astronomy transcends all boundaries; dilemma, because this support transcends science also.

As is well known it is very difficult to define things. It has been said that definition should emerge from actual practice. This is largely true. But there are times when concepts need to be defined properly so that future actions can be given a direction. When we were in school we were told in the English class that the word history has no plural. Now I realize that we were wrongly taught. I am inclined to go to the other extreme and assert that there is no history only histories.

That is why today the trend is to use the term heritage as in the title for this symposium. Heritage can be seen as the sum total of histories. And yet for the sake of developing a global perspective and planning combined action we must try to develop a universal history.

Elsewhere I have used the term Cultural Copernicanism. Just as Copernican principle in cosmology tells that the universe does not have a preferred location or direction, Cultural Copernicanism would imply that no cultural or geographical area or ethnic or social group can be deemed to constitute a benchmark for judging and evaluating others. Within this framework how do we deal with the past? Past should not be pitted against the present. It must be conceded that modern astronomy is the terminus of an evolutionary track. Astronomy (as well as science in general) should be seen as a multi-stage civilizational cumulus where each stage builds on the knowledge gained in the previous stages and in turn leads to the next. In various stages there are invariably deed ends which should be handled with sensitivity. In this context it would be useful to keep in mind a wise statement by Henry David Thoreau: "*A man is wise with the wisdom of his time only, and ignorant with its ignorance.*"

History is an exercise in reconstructing the past that is carried out in the present with an eye on the future. Thus paradoxical as it may seem history is an instrument that converts the past into a bridge between the present and the future. More specifically, history of astronomy is an enquiry into how human perception of their cosmic environment has evolved with time. It is relatively an easy matter to discuss the history of modern astronomy as western astronomy. But if we wish to advance the cause of astronomy, if we wish to see world-wide development of astronomy, we must place post-Galilean developments in a wider spatial and temporal context. Some relevant details of the activities planned by the International Astronomical Union and the United Nations in commemoration of International Year of Astronomy 2009 will be provided.