

SYMMETRY IN THE INDIAN CONTEXT - A critique

D. K. SINHA
University of Calcutta
Senate House,
College Street,
Calcutta:700073,
INDIA.

EXTENDED ABSTRACT

"Symmetry" is a word that has acquired over the centuries a variety of connotations and dimensions in a wide diversity of setting. The countries with a vibrant cultural heritage like India can boast of nuances of "Symmetry" of its own; Indian ethos has shaped, through the centuries, in evolving facets of symmetry. While in some distant past, notions on symmetry in the Indian context carved out in a distinctively original manner, it is only, in recent times, one finds a fairly close confluence of such notions with those that have a contemporary character. The purpose of this presentation is to glean through the Indian past, aspects of symmetry without being bothered that the relevant terminology was somewhat different and also to bring to the fore how such evolving wielded tremendous influence may be somewhat unknowingly and unconsciously on formats that contemporaneity and posterity might warrant for.

Indian culture, steeped as it is in religion, could hardly find a medium for its expression other than those religious in nature. Indeed, the essence of religion being dominantly a way of life, there used to be manifestations of intellect and creation largely through media of structures e.g. temples and even practices associated with this which one may now a days look askance at, for being too ritualistic in nature. This becomes obvious even through a cursory glance; even an apparently mundane religious ritual may smack of micro-existence of forms and structures, fairly symmetrical in nature, which if blown up succinctly, could emerge into respectable macro-forms and structures. For example, the altar which used to be a regular feature in the Vedic times and often even now, as a forerunner of religious activities, if scanned critically, does exhibit in no uncertain terms a symmetrical character. Here was a symmetry that could be consummated elsewhere in many other facets that would, indeed, go to the total make up of the activity. Often, symmetry per se would be a pervading theme. Any symmetrical structure would necessarily call for reflections about an entity, a line or a plane and the necessary concomitants are parts that are, in this kind of parlance, described as the image of one of the other or vice versa. The Indian structures e.g., temples are replete with architectural designs that seek to build upon symmetry; as a matter of fact, a

ritual grid would unfold itself, through definite proportions in respect of measurement without losing the aesthetics. One can cite copious examples cutting through diverse regions of India, architectural forms that reflect in a profound manner thought-processes, intrinsically symmetrical in nature.

The science of Sulvas (the rope - geometry) which formed the crux of geometry in ancient India is full of forms that speak of symmetries in abundance. The unity in the midst of diversity a much-talked about Indian theme is found, on critical assessment, to be built into symmetrical forms. While one may not find replicas of symmetry of ancient Greece or elsewhere of the Western World in the Indian setting, the bid for perfection in the design of symmetry continued and even continues today to be unabated. Here also, measurements, based on apposite and meticulous proportions, seemed to afford methodologies for the purpose of construction based largely on symmetry. The locations of the deities, in respect of their hierarchies, were often made out in symmetrical forms and there is a host of such examples in the Indian situation. The Indian sarees (dresses for ladies) even today have borders that exhibit symmetry in abundance, which strictly speaking is a translation symmetry, which, in turn, is also ~~brought~~ brought out with a highly aesthetic version in decoration that go with religious ceremonies. The expanding format of symmetry does necessarily bring about complexity but the processes of embellishment ^{at} every stage is hardly glossed over. The Konarak of Orissa, Kajari in Madhya Pradesh bear ample testimony to this. Symmetry is found interwoven with texture of life, even at the risk of being dubbed as amorous or luscious. Symmetry does not remain as something banal but grows out of inessentials again with the aid of proportions in respect of measurements. Holistic yearning holds sway. Thus, in any kind of exercise on bringing out symmetry, there is a back and forth mobility between reality and extra-reality, i.e., transcending the reality bordering often candidly on divinity; The fusion achieved thereby may appear to be enigmatic but it does reflect a remarkably sustainable evolution. The Indian view of symmetry is not necessarily symbolic in the artistic sense, as often invoked in the western world. It is fully embedded in the Indian thinking which seldom draws a demarcation between what we find in reality and what we should have beyond reality. Reality has thus in the Indian setting an analytical continuation, to borrow over from mathematics - from which symmetry, to Indian practitioners over the ages, could be hardly immune.

Coming to developments at present, there is no need or to read into or to graft into, the modern concept of symmetry in the Indian setting. Indian setting, has developed moorings of its own which feel in conductively well with contemporary notions of symmetry. Indian efforts to look for geometrical forms through dissections even to the extent of shapes with fractional dimensions, bear close proximity to what have coming to be known as fractals. Sulava science

is full of ample illustrations of this sort. As already mentioned, the exercises that make use of dissections in the geometrical arena, would seek the basis on notion for symmetry. Transformation geometry, a spin-off of thought-processes on symmetry has thus acquired a distinctive character in the Indian context. Thus, in brief, the search for symmetry as practised in India, apart from being an intellectual activity, is a reflection in a wider, canvass, on the Indian ethos and culture and built up through the centuries and continuing to respond to the urges and imperatives of the present.
