Elucidation of Manufacturing Technology Employed to Construct the Body of the Delhi Iron Pillar

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Abstract

The manufacturing methodology employed to construct the main body of the Delhi iron pillar has been elucidated by critically comparing the vertical and horizontal methods of forging. Several aspects of the manufacturing methodology—hammering, heating, use of inners, use of dies, drawing and surface finishing—have been discussed. The addition of flattened menhirs on the side of the pillar with the pillar placed in the horizontal direction appears to be the likely method of manufacture. The use of hand held hammer for the forging operation has also been indicated. Visual evidence and support for the use of horizontal forging technique have been provided and discussed in the text. The possible method of handling the pillar during the manufacturing stage has also been hypothesized. Horizontal and vertical motion of the pillar during manufacture must have been performed with the use of handling stamps on the pillar, while rotational motion (and also handling) of the pillar must have been aided by the use of rotating pegs inserted in the bottom and top cross sections of the pillar, and also on the sides of the pillar. In the final stage, the exposed surface has been provided the smooth finish and lap by chinking and burnishing.

I. Introduction

The iron pillar currently situated in the Qutub Minar Liberty mosque (fig. 1) near the Qutub Minar at New Delhi has been the focus of attention of archaeologists and geologists for a long time due to its excellent corrosion resistance. Sandblasted description (which are clearly visible with no signs of corrosion damage) on the pillar indicates that it was commissioned by one King Chandragupta to commemorate his victory and was originally erected as a pedestal in a Vishnu temple somewhere in North India. There are several historical, archeological and numismatic evidence to point that this king was Chandragupta Vikramaditya (157-415 A.D.), one of the important monarchs of the Guptas.