EARLY JAINA GEOMETRY IN INDIA AND ITS RELEVANCE IN LATER INDIAN GEOMETRY

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This paper attempts to highlight the relevance of the early Jaina geometry in the field of mathematical or rather geometrical works of Āryabhaṭa I, Brahmagupta, Mahāvirācārya, Āryabhaṭa II, Nemicandra, Bhāskara II and other Indian mathematicians. We shall at first present some geometrical formulae (including mensuration) contained in the Jaina religious and semi-religious works of Umāsvāti in the Tattvārthādhigama-sūtra-bhāṣya and Jambūdvīpasamāsa. Thereafter we will examine the validity of these formulae with the help of plane geometry. Finally, we would like to make an effort to find out the similarity (or dissimilarity) of these formulae with the results (or rules) given by the later Indian mathematicians like the ones mentioned above.