



Events

THE INDUS CIVILIZATION & ITS WRITING

Panel Members: **Ronojoy Adhikari** (Institute of Mathematical Sciences, Chennai, India), **Rajesh Rao** (Computer Science & Engineering, University of Washington, Seattle), **Mayank Vahia** (Tata Institute of Fundamental Research, Mumbai, India), and **Nisha Yadav** (Tata Institute of Fundamental Research, Mumbai, India)

Tuesday, April 21, 2009

7:00 pm

Kane 225 (Walker-Ames Room)

The panel members will discuss different aspects of the Indus writing system, including the nature of the Indus civilization and its artifacts, the written material, and the design of the signs used in the writing. They will review their recent work on extracting rules of writing based on computer analysis of sign sequences and discuss the possible relation of Indus writing to the Dravidian group of languages.

The Indus civilization is one of the world's oldest. Roughly contemporaneous with the first great civilizations of Egypt and Mesopotamia but covering a much larger area, it flourished as an urban culture from about 2500 BC to 1700 BC. A large number of sites belonging to the civilization have been discovered along the Indus River in present day Pakistan as well as several hundred kilometers away along the bed of a now dry river in northwestern India. The culture included large planned towns with populations ranging from fifteen to twenty thousand. These towns exhibit marvelous feats of engineering, including well-planned orthogonally laid-out streets and sophisticated water and sewage management systems. The Indus culture declined after 1700 BC, and there is no extant historical information about the civilization. The only written material available is in the form of small seals, tablets, and other objects containing short strings of signs. The number of distinct signs is in the range of four hundred; the average length of the writing is five signs; and the largest string has fourteen signs.

There have been about a hundred attempts to decipher the writing but none has found universal acceptability. Some researchers have even suggested that it may not be formal writing at all.

But it is possible to analyze the structure of Indus writing in a language-independent manner, using statistical methods and computer algorithms. In a series of recent papers based on such an approach, the panel members and their collaborators have shown that the writing is highly structured and meets many of the criteria that define formal languages. Other researchers have looked for similarities between Indus writing and languages in use in India today. Major researchers in the field have gravitated towards the hypothesis that the writing is related to an ancient form of the Dravidian group of languages whose later derivatives, such as Tamil, Telugu and Kannada, are still in use in southern India today.

This event is sponsored by the Simpson Center for the Humanities, the College of Arts & Sciences Exchange Program, the College of Engineering, and the Department of Computer Science & Engineering.