How relevant is Pāṇini today?

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Pāṇini's *Aṣṭādhyāyī*, dated to around 500 B.C., is the oldest existing grammar of Sanskrit. The importance of *Aṣṭādhyayī* is three fold. The first one as an almost exhaustive grammar for any human language with meticulous details yet small enough to memorize. It is often admired for its simplicity and the completeness of its coverage of the then prevalent Sanskrit language. Presented in less than 4000 sutras (aphorisms) with around 7000 words, Bloomfield describes it as the 'greatest monuments of human intelligence'.

Many scholars of *Aṣṭādhyāyī* believe that though *Aṣṭtādhyāyī* is written to describe the then prevalent Sanskrit language, it provides a grammatical framework which is general enough to analyse other languages as well. This is evident from the fact that this grammar has theoretically influenced the western linguistic theory (which is less than 2 century old) in many ways. The linguists admit that many of the insights of Pāṇini's grammar still remain to be captured. This makes the study of *Aṣṭādhyāyī* important from the point of view of concepts it uses for language analysis.

The third aspect of *Aṣṭādhyāyī* is its organization. The set of less than 4000 *sūtra*s is similar to any computer program, with one major difference, the program being written for a human brain and not for a machine, thereby allowing some non-formal or semi-formal elements which require a human being to interpret them. This makes Pāṇini as the foremost informaticien, 25 centuries before computers came into existence. Pāṇini paid utmost attention to the way information is coded in Sanskrit and used this insight not only to describe the grammar of Sanskrit but he also used these features in his Meta language to formulate the grammar of Sanskrit. The intricate system conventions governing rule interaction and rule application, the linear arrangement of partially ordered sets in the form of *śivasutras*, the linearized representation of hierarchical relationships, use of markers to trigger the application of sūtras are some of the techniques found in the organisation of Pāṇini's grammar.

In this talk I will illustrate with examples how these three aspects of Pāṇini are relevant today.