Computational tools to assist a Sanskrit student

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Abstract

Indian tradition of transmitting knowledge orally is on the verge of vanishing. As the oral transmission demands, Indian traditional educational culture was organised to be *formal and intensive* as opposed to the modern culture which is more *informal and extensive* (Wood, 1985). In traditional circumstances, a child would receive his education largely by oral transmission, mainly through rote-learning. The method employed was through recitation and remembering. A child is taught the alphabet (varṇamālā), he would memorise a few verses, subhāṣitas, and then start reciting a dictionary of synonymous words – the Amarakośa – till it is memorised. Then the study of grammar would commence with aṣṭādhyāyī – its memorisation, study of commentaries, thorough drilling of prakriyās involved, till the study of śābdabodha texts.

The Sanskrit learning process thus involved intense use of memory as well as intellectual ability to draw inferences using the contextual knowledge, resolve conflicts, and so on. Students of Sanskrit interested in literature, Indian mathematics, Ayurvedic studies etc. find themsleves handicapped if they have not gone through the intensive study of grammar formally. Computers can play a major role for such students by sharing the load.

In this talk we demonstrate various tools that assist a student in getting the noun declensions, conjugation of verbs, sandhi operations, analysing an inflected word form, segmentising a sandhied string, analysing a sentence showing various kāraka relations, etc. We also point out the limitations of computer as a tool and show how a human being with his contextual and subject knowledge can complement a computer. A prototype reader for Sankshepa Ramayana developed using these tools will also be demonstrated.