Sanskrit in the age of Artificial Intelligence

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Artificial Intelligence – Bhāsamānā prajñā

Intelligence

Arithmetic & Logical Unit

Logical and Arithmatic Intelligence

Chess – Epitome of Human intelligence

Deep Blue (IBM) defeated Gary Kasporov (1997)

Intelligence

Linguistic Intelligence

The first computer application –
Deciphering Enigma messages during World War II
Alan Turing

Two applications

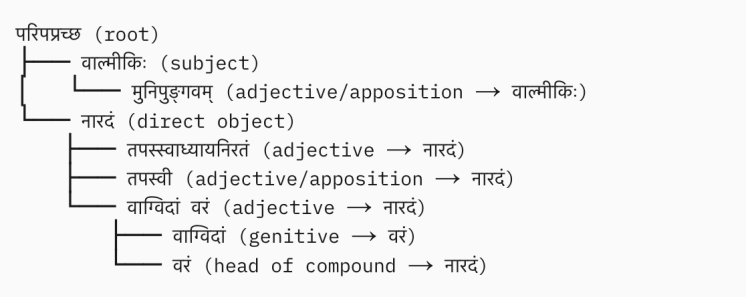
- Overcoming Language Barrier – Deep Learning (2015-20)
- Question-Answering system – Geneative Pre-Trained Transformer (GPT) (2018-)

GPT ...

- ChatGPT
- Gemini
- Grok
- ...
- ...

Grok

Analyse the Sanskrit Shloka
tapassvādhāyayaniratam tapasvī vāgvidāṁ varaṁ nāradaṁ paripapraccha vālmikirmunipuṅgavam



Grok ... contd

Provide the analysis according to the Samsaadhanii software.

The Samsaadhanii software (developed by the University of Hyderabad and other collaborators) provides detailed morphological, syntactic, and semantic analyses of Sanskrit sentences, leveraging Pāṇini's Aṣṭādhyāyī rules to parse words, identify their grammatical components, and map their syntactic relationships. It generates outputs such as morphological breakdowns, kāraka (semantic role) assignments, and dependency trees. Dependency Parse:

Root: paripapraccha (verb)
Kartā: vālmīkiḥ (subject)
Viśeṣaṇa: munipuṅgavam
Karma: nāradaṃ (object)
Viśeṣaṇa: tapas-svādhyāya-niratam
Viśeṣaṇa: tapasvī
Viśeṣaṇa: vāgvidāṃ varam
Ṣaṣṭhī: vāgvidām ⇒ varam

Language Learning

- Vṛddhavyavahāra
  āvāpa-udvāpa
  anvaya-vyatireka
- Grammar

Role of Sanskrit Grammar

Patañjali on 'Why should one learn Grammar?'

- Rakṣā – Protect the texts from getting mis-interpreted
- Ūhā – Sanskrit Grammar as an Universal Grammar
- Āgama – Understand the Sanskrit texts
- Laghvārtha – Develop Computational Tools to make understanding easier
- Asandehārtha – Develop tools for Disambiguation