A Paper on Phonology.

Sanskrit Rythm: an Optimality Theory Approach.

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ABSTRACT

The purpose of this article is to investigate the "grammatical rhythmic patterns" of the Sanskrit (Devanāgarī) language.

The "Sanskrit language" in the Bhagavad-Gita (Prabhupada, 1972) presents some striking symmetrical rhythmic patterns.

na tad bhāsayate sūryo
na śaśāṅko na pāvakah
yad gatvā na nivartante
tad dhāma paramam mama

(B.G.15:6)

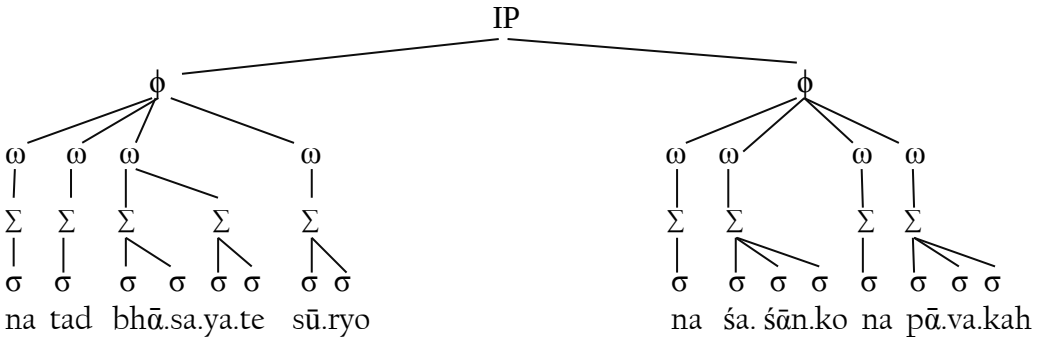
na – neither; tat – that; bhāsayate – illuminate; sūryah – the sun; na – nor; śaśankah – the moon; na – nor; pāvakah – fire; yat – which; gatvā – having attained; na nivartante – he nerver returns; tat – that (place); dhāma – abode; paramam – supreme (all-illuminating); mama – Mine.

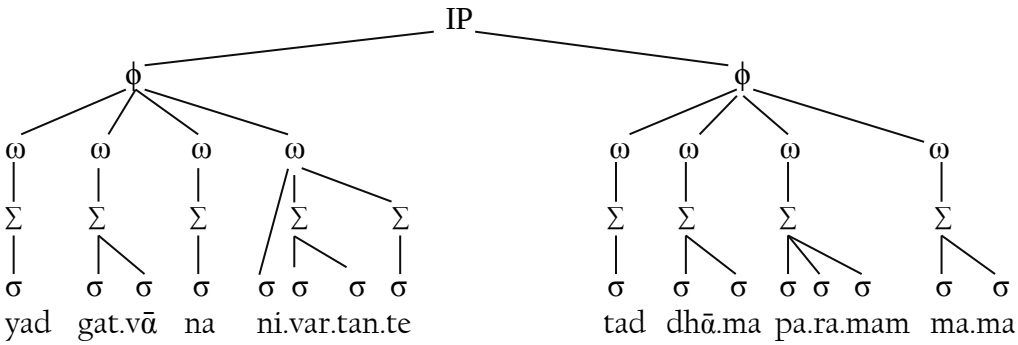
"In that supreme self-effulgent realm, the sun, the moon and fire are not required for illumination. When surrended souls attain that abode of mine, they do not return to this world."

The verses above present four constituents (syntax) that are diveded into two intonational phrases – IP (phonology). Each intonational phrase in turn groups together two phonological phrases – (ϕ) as below:

[[na tad bhāsayate sūryo](ϕ) [na śaśāṅko na pāvakah](ϕ)]IP
[yad gatvā na nivartante](ϕ) [tad dhāma paramam mama](ϕ)]IP

Based on the "Prosodic Phonology Model" (Nespor&Vogel, 1986) these two intonational phrases (IP) are further analyzed into smaller phonological domains as follow:





As we can see above each intonational phrase – IP is formed by a symmetry of prosodic words (ω), metrical feet (∑) and syllable patterns (σ) as below:

the prosodic word domain: [[(4ω](ϕ) [4ω](ϕ)]IP

the metrical foot domain: [[(5∑](ϕ) [4∑](ϕ)]IP

the syllable domain: [[(8σ](ϕ) [8σ](ϕ)]IP

Based on the "Optimality Theory Model" (Prince&Smolensky, 1993) we analyze the "grammatical rhythmic pattern: "UnaryFoot >> UnaryFoot>> BinFeet>> UnaryFoot " extracted from one of the verses of the Bhagavad-Gita (15:6).

CONSTRAINTS:

UnaryFoot (ω): the prosodic word has an unary foot.

BINFt (ω): the prosodic word has a binary feet.

Input: “a grammatical rhythmic pattern” of the Bhagavad-Gita (15:6)	UnaryFoot (ω)	UnaryFoot (ω)	BINFt (ω)	UnaryFoot (ω)
→ na tad bhā.sa.ya.te sū.ryo				
na śa. śān.ko na pā.va.kah			*!	
yat gat.vā na ni.var.tan.te			*!	*!
tad dhā.ma pa.ra.mam ma.ma			*!	

As we can see above the “winner verse candidate” for the “grammatical rhythmic pattern”: “UnaryFoot >> UnaryFoot>> BINFt >> UnaryFoot ” from the Bhagavad-Gita (15:6) is the verse: “na tad bhāsayate sūryo ”.

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