

XVII. LINGUISTICS*

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A. THREE TRADITIONAL RULES OF SANSKRIT

In this report we show how three traditional rules of Classical Sanskrit phonology can be elegantly stated in terms of manipulations of distinctive features. In each case the relevant sections of two representative standard grammars – Whitney's and Renou's¹ – are cited for comparison.

It must be noted that Sanskrit $\underline{r}/\underline{r}$ is treated here as a dental continuant liquid, distinct from \underline{l} only by having the feature [+flat] where \underline{l} has the feature [-flat]. By a very late rule of the grammar \underline{r} becomes noncontinuant (flapped or trilled) in prevocalic or postvocalic position. \underline{R} is treated as a dental because it alternates with \underline{s} and because it is grouped with the diffuse vowels \underline{i} and \underline{u} in a number of rules. Flatness is to be interpreted as retroflexion in [+cons] segments, as lip rounding in [-cons] segments.

Retroflexion of s.² A nonfinal \underline{s} immediately preceded by \underline{i} , \underline{u} , \underline{r} or \underline{k} becomes retroflex unless there is a later \underline{r} in the same word. In distinctive feature terms,

$$I. \quad \left[\begin{array}{l} + \text{ cons} \\ - \text{ voc} \\ + \text{ cont} \\ - \text{ comp} \end{array} \right] \longrightarrow [+ \text{ flat}] /$$

$$\left[\begin{array}{l} a \text{ voc} \\ - a \text{ comp} \end{array} \right] \quad \text{_____} \quad \left[\left\{ \begin{array}{l} - \text{ flat} \\ - \text{ cons} \end{array} \right\} \right]_1 \quad \#\#$$

The specification $\left[\begin{array}{l} a \text{ voc} \\ - a \text{ comp} \end{array} \right]$ includes all velar and palatal consonants (of which only \underline{k} occurs before \underline{s}), the vowels \underline{i} and \underline{u} (or their nasalized counterparts), and the liquids \underline{r} and \underline{l} (but the sequences \underline{ls} and $\underline{l}\underline{s}$ do not occur).

Retroflexion of n.³ An \underline{n} , if it is preceded by an \underline{r} or \underline{s} within the same word, if

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no palatal or dental consonant intervenes between the r or ṣ and the n, and if the n is followed by a nasal, vowel or semivowel, becomes retroflex unless there is a later r or ṣ in the word. That is to say,

$$\text{II. } \begin{bmatrix} + \text{ nas} \\ - \text{ grave} \end{bmatrix} \rightarrow [+ \text{ flat}] \quad / \quad \begin{bmatrix} + \text{ cons} \\ + \text{ cont} \\ + \text{ flat} \end{bmatrix} \left[\begin{bmatrix} - \text{ cons} \\ + \text{ grave} \end{bmatrix} \right]_{\text{O}} \quad \text{---} \quad \begin{bmatrix} - \text{ obst} \\ - \text{ voc} \end{bmatrix} \left[\begin{bmatrix} - \text{ flat} \\ - \text{ cons} \end{bmatrix} \right]_{\text{O}} \quad \#\#$$

Rule II must be ordered after Rule I, for if the rules were oppositely ordered (or if the ordering were free), the form *praṇankṣyati would be derivable instead of the correct form praṇankṣyati.

Assimilation of Retroflexion.⁴ Within a word, dental stops (including nasals) become retroflex after any retroflex consonant. That is,

$$\text{III. } \begin{bmatrix} + \text{ cons} \\ - \text{ voc} \\ - \text{ cont} \\ - \text{ comp} \\ - \text{ grave} \end{bmatrix} \rightarrow [+ \text{ flat}] \quad / \quad \begin{bmatrix} + \text{ cons} \\ - \text{ voc} \\ + \text{ flat} \end{bmatrix} \text{---}$$

An illustration of all three rules in operation is provided by the past participle formed on the root ksud 'shatter,' which is one of approximately 70 roots that take #na in the past participle. After the application of an assimilation rule not discussed here, we have the form ksunna, which becomes (in order) kṣunna, kṣuṇna, and finally kṣuṇṇa by rules I, II, and III, respectively.

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References

1. W. D. Whitney, Sanskrit Grammar (Harvard University Press, Cambridge, Mass., 1889); L. Renou, Grammaire Sanscrite (Adrien-Maisonneuve, Paris, 1961).
2. W. D. Whitney, op. cit., pp. 180-188, L. Renou, op. cit., pp. 13-16.
3. W. D. Whitney, op. cit., pp. 189-195, L. Renou, op. cit., pp. 17-18.
4. W. D. Whitney, op. cit., pp. 196-198, L. Renou, op. cit., pp. 12, 17a.