Critical analysis of phonetical study of the Sanskrit and the German languages

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Abstract
A proper study of grammar presupposes an adequate study phonetics which is supplied in the case of Sanskrit grammar by the pertinent sections in the ancient Siksa and the Pratishakhya works. Out of the several means of thought such as the activities and gestures by the face, the hands and other parts of the body, language forms the best and the most efficient one. Sounds are in fact, the vibrations produced by the air which leaves the lungs and sets the vocal cords in motion. Ancient grammarians have mentioned a few additional factors in respect of the production of sound, such as the comprehension of an object, the formation of a notion about it, a desire to express the notion formed and adequate effort to express the notion by speech. German Sanskrit scholars have found that German nouns vary based on gender. Every noun is categorized into feminine, masculine and neuter gender, just as in the case of Sanskrit. Much like how it works in Sanskrit, the ending of a verb in German changes with gender as well as position of the subject, that is whether the position of the subject is in first, second or third person.

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Introduction
Phonetics is a branch of linguistics that comprises the study of the sounds of human speech, or—in the case of sign languages—the equivalent aspects of sign [1]. It is concerned with the physical properties of speech sounds or signs (phones): their physiological production, acoustic properties, auditory perception, and neurophysiological status. Phonology, on the other hand, is concerned with the abstract, grammatical characterization of systems of sounds or signs.

The field of phonetics is a multilayered subject of linguistics that focuses on speech. In the case of oral languages there are three basic areas of study:

- **Articulatory phonetics**: The study of the production of speech sounds by the articulatory and vocal tract by the speaker.
- **Acoustic phonetics**: The study of the physical transmission of speech sounds from the speaker to the listener.
- **Auditory phonetics**: The study of the reception and perception of speech sounds by the listener.

These areas are inter-connected through the common mechanism of sound, such as wavelength (pitch), amplitude, and harmonics.

1. Phonetics of the Sanskrit Language
Sanskrit is an exquisite language from ancient India whose beauty and design set it apart from ordinary language. The word Sanskrit, in spelled SA’MSRTA, and means “refined” or “well made”. Over 3500 years old, Sanskrit arose among people who valued inner peace over outer possessions.

Sound is the highest priority in Sanskrit. In the beginning, the sacred texts called Veda-s were not written down, only chanted. Having a language that 100% phonetic makes it much easier to preserve these sacred sounds. Because most people automatically blend words together when they speaking fast, sound blending rules were created, ensuring the spoken and the written always match.
Pronunciation has always been extremely important, since all sound has an energetic effect. The science of Mantra developed from this idea, and Sanskrit sounds are made in specific mouth positions long the palate, each causing vibration to travel in a different direction.

A. Production of inarticulate sounds
The letters of the alphabet as stated above, are vibrations of air which is breathed out from the lungs and which sets in motion of the vocal cords in the larynx or the upper part of the wind-pipe. The air breathed out from the exhalation, ordinarily escapes through the big slit between the vocal cords; but when a oerso wants to speak, the muscles of the larynx become active and they exert a kind of pressure on the laryngeal or vocal cords and vibrations are produced Thus, the actual speech organ is the upper part of the windpipe known as larynx. When the cords are stretched tightly and the gap between the cords in made smaller the tone produced is shrill. When, the cords are relaxed and the gap is bigger, the same tones are soft and deep. Panini has described these two processes by saying when the gap is smaller by the stretching of cords, the throat becomes winded, breath is emitted and the surd letters are produced (आम्ना बुद्ध्या समेत्यानामर्कम् युक्ते विक्षयया:मनं कायायिनिम्मालिनिः स परेर्पती साहसमुच्यतस्तुसिः च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च च
letters ‘a’, ‘o’ and ‘u’ to form ‘ä’, ‘ö’ and ‘ü’. The literal meaning of umlaut is ‘altered sound’ and it is therefore fitting that the sounds represented by the three umlauted German vowels are very different from non-umlauted ‘a’, ‘o’ and ‘u’. Their pronunciation must be learned separately, not least because umlaut sounds appear in a number of very common German words and as a marker of the plural.

The table below gives links to the pages for these umlauted vowel sounds in my online German pronunciation guide, and also for the diphthong ‘au’. The key combination required by Microsoft Windows users in order to produce these characters is also given. Simply hold down the Alt and type in the appropriate number using the numeric keypad.

German has an additional character ‘ß’, which is either called esszet (pronounced “ess-set”) or ‘scharfes s’. When used in words, it sounds exactly like “ss”. When you are writing in capital letters, ‘ß’ is always replaced by “SS” - ‘ß’ is the only German letter that only exists in the lower case.

Whereas ‘ß’ is of course present on computer keyboards in Germany and Austria, English-speakers will need to press a combination of keys to produce the character. If you are using Microsoft Windows, either hold down Alt and type 225 on your numeric keypad, or hold down Alt and type 0223.

The recent spelling reforms in the German-speaking countries have both simplified and reduced the usage of ‘ß’. One result of the orthographic reforms has been that the letters ’ss’ are now used after short vowels in words where the /s/l phoneme was previously represented by the ‘ß’ character.

The diacritic letters ä, ö and ü are used to indicate the presence of umlauts (frontalizations of back vowels). Before the introduction of the printing press, frontendization was indicated by placing an ‘e’ after the back vowel to be modified, but German printers developed the space-saving typographical convention of replacing the full ‘e’ with a small version placed above the vowel to be modified. In German Kurrent writing, the superscripted ‘e’ was simplified to two vertical dashes, which have further been reduced to dots in both handwriting and German typesetting. Although the two dots of umlaut look like those in the diaeresis (trema), the two have different origins and functions.

When it is not possible to use the umlauts (for example, when using a restricted character set) the characters Ä, Ö, Ü, ä, ö, ü should be transcribed as A, O, U, a, o, u respectively, following the earlier postvocalic-’e’ convention; simply using the base vowel (e.g. u instead of ü) would be wrong and misleading. However, such transcription should be avoided if possible, especially with names. Names often exist in different variants, such as “Müller” and “Mueller”, and with such transcriptions in use one could not work out the correct spelling of the name.

Automatic back-transcribing is not only wrong for names. Consider, for example, das neue Buch ("the new book"). This should never be changed to das neü Buch, as the second e is completely separate from the u and does not even belong in the same syllable; neue (l ˈnɔː.ɐ) is neue (the root for new) followed by an e, an inflection. The word neü does not exist in German.

Furthermore, in northern and western Germany, there are family names and place names in which e lengthens the preceding vowel, as in the former Dutch orthography, such as Stralen, which is pronounced with a long a, not an ä. Similar cases are Coesfeld and Bernkastel-Kues.

In proper names and ethnonyms, there may also appear a rare ë and ţ, which are not letters with an umlaut, but a diaeresis, used as in French to distinguish what could be a digraph, for example, ai in Karaïmen, eu in Aléutien, ie in Ferdinand Piëch, oe in Clemens von Löe and Bernhard Hoëcker (although Hoëcker added the diaeresis himself), and ue in Niëu. Occasionally, a diaeresis may be used in some well-known names, i.e.: Italien (usually written as Italien). To separate the au diphthong, as well as some others, which are graphically composed of potentially umlaut-holding letters, the acute accent is sometimes used (e.g. Saidié-Rabién).

Swiss typewriters and computer keyboards do not allow easy input of uppercase letters with umlauts (nor ß) because their positions are taken by the most frequent French diacritics. Uppercase umlauts were dropped because they are less common than lowercase ones (especially in Switzerland). Geographical names in particular are supposed to be written with A, O, U plus e except “Österreich” (Austria). The omission can cause some inconvenience since the first letter of every noun is capitalized in German. Unlike in Hungarian, the exact shape of the umlaut diacritics – especially when handwritten – is not important, because they are the only ones in the language (not counting the tittle on ï and ñ). They will be understood whether they look like dots (°), acute accents (‘), vertical bars (‘), a horizontal bar (macron, ¯), a breve (˘), a tiny N or e, a tildé (˜), and such variations are often used in stylized writing (e.g. logos). In the past, however, the breve was traditionally used in some scripts to distinguish a u from an n, as was the ring (˚). In rare cases the ñ was underlined. The breved u was common in some Kurrent-derived handwritings; it was mandatory in Sütterlin.

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