INDO-ARYAN AND SLAVIC AFFINITIES

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Introduction

The most important of the linguistic families of India, Pakistan and Ceylon (Sri Lanka) is the Indo-Aryan, of which the ancient and classical form is Sanskrit. The word samskrta-means 'perfected', 'polished' and is strictly applied to the language as regulated and established by the Indian grammarians. In a wider sense Sanskrit is applied both to the earlier form called Vedic Sanskrit which appears in the Vedic texts and to the later form stereotyped by the grammarians (Panini) called Classical Sanskrit. From Sanskrit are descended Pali and the various dialects of Prakrit, which are collectively styled 'Middle Indo-Aryan'. Out of the Middle Indo-Aryan, the various modern Indo-Aryan languages of the Indian area have evolved: Bengali, Hindi, Gujarati, Marathi, Punjabi etc. Outside, Sanskrit is closely connected with the languages of the Iranian family of which the earliest representatives are Avestan and Old Persian (Encyclopedia Americana).

The discovery of Sanskrit by European scholars towards the close of the 18th century was the starting point of the scientific study of language. It was observed that in both vocabulary and grammar Sanskrit was remarkably similar to the majority of the languages in Europe and particularly in grammar, to the classical languages. The only theory that could explain these fundamental similarities was that all the languages in question were derived from a common parent language (Encyclopedia Americana).

Most scholars are cognizant of the similarities between Sanskrit and classical languages such as Greek and Latin, but relatively few are aware that equal similarities still exist in modern, living Slavic languages in particular Slovenian. Slovenian still preserves some grammatical forms that are no longer present in other European or Indian languages.

Vedic and Classical Sanskrit

The language and literature of the Aryan invaders of India falls into two periods, the Vedic and Sanskrit. Vedic is the English adjective formed from the noun veda, the native for the literature. The word means "knowledge", (Slovenian "veda ") in the sense of sacred knowledge comparable to the Bible. It is a religious literature, composed to meet the various needs of a complex religious system. The four books of sacred writings are: Rig-Veda, Sama-Veda, Atharva-Veda and Yajur-Veda. The oldest of these is Rig-Veda. The age estimates of Rig-Veda vary considerably between competent scholars. They estimate the age anywhere from 3000 to 6000 years (Encyclopedia Americana).

The spoken dialect on which the language of the Rig-Veda is based lay to the northwest of the area where the later classical language developed. The most important difference in the dialect between Vedic and Classical Sanskrit lies in the treatment of Indo-European "r" and "l". In the Rig-Veda, Indo-European "l" nearly always appears as "r", e.g. ruc 'light', (Slo. 'luč). In Classical Sanskrit, on the other hand, "l" is frequently preserved, e.g. laghu 'light', (Slo. 'lahko'). Vedic, the earliest literary language, was based on a dialect spoken in Punjab; the home of the Classical Sanskrit was the ancient Madhyadesa or 'Middle Country', which corresponds roughly to the modern Uttar Pradesh. Classical Sanskrit, which was eventually polished and fixed by Panini about 300 B.C., is essentially a later form of the language that appears in the Vedas. The literary Sanskrit as the heir of the Vedic religious tradition has remained down to the most recent times, the language of the traditional Hinduism of India. The situation is similar to the position of Latin, which was the vehicle of the classical and medieval culture of Europe and lived until recently in the writings and the liturgy of the Catholic Church. With the aid of Panini's systematic grammar, an English judge in India Sir William Jones announced in Calcutta-that Sanskrit, Greek and Latin "have sprung from some common source which, perhaps, no longer exists." This was the seed from which sprang Indo-European comparative grammar, the branch of linguistics that sets forth in all detail the relationship posited by Jones (Emeneau M).

Linguistic Comparisons

Reindl (1999) gives an excellent short comparison between Sanskrit and Slovenian. Sanskrit and Slovenian (and other Slavic languages) are related at the Indo-European level; that is, if you were to think of the Slavic languages as being "sister" languages, Sanskrit would be a "cousin" language to them.

Thus, there are certain similarities that can be observed in the areas of phonology, morphology, syntax and lexicon because of their historical connection.

The phonological similarities are heightened by the fact that Slavic and Indic languages are both part of the "satem" group of Indo-European languages; thus, they will often share an /s/, whereas other languages will have a /k/, such as Germanic /h/. For example, Sanskrit satam 'hundred' and Slovenian sto 'hundred', but Latin centum 'hundred' and German hundert 'hundred'.

Slavic is, very generally speaking, phonologically conservative in many ways, thus allowing us to recognize cognates with Sanskrit because of its own archaic nature. For example, Sanskrit vranam 'wound' and Slovenian rana 'wound', Sanskrit maksha 'fly' and Slovenian muha 'fly', Sanskrit ish, icchati 'to look for' and Slovenian iskati 'to look for'. (To Reindl's examples, it is possible to add many others, such as Sanskrit mushka 'muscular person' and Slovenian moški 'manly', Sanskrit mush 'mouse' and Slovenian miš 'mouse', Sanskrit i, eti 'to go' and Slovenian iti 'to go'.)

In the realm of morphology, Slovenian preserves the dual number (as does Sorbian, a Slavic language spoken in eastern Germany). The verbal endings in the present tense are strikingly similar between Slovenian and Sanskrit:

	Singular			Dual			Plural		
Skt	patami	patasi	patati	patava	patathah	patatah	patamah	patatha	patanti
Slo	padam	padaš	pada	padava	padasta	padata	padamo	padate	padajo
Eng	I fall	you fall	he falls				we fall	you fall	they fall

	Singular			Dual			Plural		
Skt	asmi	asi	asti	svah	sthah	stah	smah	stha	santi
Slo	sem	si	je	sva	sta	sta	smo	ste	so
Hindi	maim hum	tu hai	vah hai				ham haim	tum ho	ve haim
Eng	I am	you are	he is				we are	you are	they are

Nouns also show similarities between Sanskrit and Slovenian. Both have dual. The vocative is not preserved in Slovenian, but is found in Czech, Croatian, Serbian, Macedonian and Bulgarian. The full 8-case system of Sanskrit has evolved in most Slavic languages to 7 or 6 cases (Slovenian and Latin 6; in Greek 5).

NUMERALS---CARDINALS:

ENGLISH	SANSKRIT	SLOVENIAN	HINDI	PUNJABI
one	eka	eden, neki 'someone'	ek	ek
two	dva, f.dve	dva, f.dve	do	do
three	tri	tri	ti:n	tinn
four	catur	štiri	cha:r	cha:r
five	panca	pet	pa:nch	panj
six	shash, shat-	šest	chhe	chhe
seven	sapta	sedem	sa:t	satt
eight	ashta:	osem	a:th	atth
nine	nava	devet	nau	nau
ten	das'a (Macdonell)	deset	das	das
decade	das'at	desetka		dasshak

(Skt., peta 'open hand with fingers expanded' Slo., pedpet)

NUMERALS---ORDINALS:

ENGLISH	SANSKRIT	SLOVENIAN	HINDI	PUNJABI

first	prathama(purva)	prvi		pehla	pehla
second	dvitiya	drugi		dusra	duja
third	tritiya	tretji		tisra	tija
fourth	caturtha		četrti	chautha	chautha
fifth	pancatha	peti		pachva	pannava
sixth	shashtha	šesti		chhatha	chhatha
seventh	saptama	sedmi		satwa	satma
eight	ashtama	osmi		ath	ath
ninth	navama	deveti		navam	nauvan
tenth	das'ama	deseti		daswa	daswa
twofold	dvaya	dvoje		duguna	duguna
threefold	traya	troje		triguna	triguna
tenfold	dasa kritvas (Macdonell)	deset krat		dasguna	dasguna

Syntactically, most Slavic languages have adopted a basic SVO pattern, in distinction to the (usual) SOV pattern in Sanskrit. Consideration that Sorbian is underlyingly OVS is questionable (Reindl). Although Sanskrit SOV pattern is most frequent, the verb can occur anywhere in the sentence (Venkatacharya).

In addition to noun declensions, Sanskrit grammar and Slovenian grammar have additional other similarities. Both are highly inflected and have three genders - masculine, feminine and neuter. Both have three numbers - singular, dual and plural; also adjectives are inflected to agree with the nouns. Verbs are inflected for tense, mode, voice, number and person.

In Sanskrit only the first four numerals are declined in three genders. The numerals 1, 2, 3 and 4 agree in gender and case with the following noun. (This is similar to Slovenian.) The numerals from 5 to 19 are declined alike in the three genders. They agree with the nouns they qualify in gender, number and case. (In Slo., they agree in number and case, but not in gender.)

In Sanskrit and Slovenian, the ordinals, being all adjectives, are all declined in masculine, feminine and neuter. They agree in gender, number and case with the following nouns.

Additional Vocabulary Comparisons

The Sanskrit vocabulary can be found in Sir Monier Monier-Williams A *Sanskrit-English Dictionary*, and SED column indicates the page numbers, where additional meanings can be found. Nouns and adjectives are presented as roots without nominative endings. Verbs are also rendered in a root form plus 3rd person singular or 3rd person singular ending.

SANSKRIT	SED	ENGLISH	SLO.	HINDI	PUNJABI
ad	17	eating	jed	adna:	adna:
agni	5	fire	ogenj	a:g, agni	agg
ajijivat, cf. jiv	422	restore to life	oživeti		
agnishtha	5	fire-pan	ognjišče		
apuplavat,cf.plu	715	to inundate, submerge	poplaviti	aplavit	karana:
akarna	1	without ears	okrnjen		
aru, arauti	150	to shout, cry towards	rjuti	rona:	rona:
aruj, arujati	150	to tear out, demolish	rušiti, ruvati		
askand, -ati	161	to invade, assault	naskočiti		
asku, askauti	161	to pluck, tear, pull	oskubiti		
asu, asuvati	160	send off towards	suvati		
aushta	240	lip-shaped	usta	oth	hoth
aruna	88	redish brown, red	rujno	arun	arun
badisa, vadisa	719	hook, fish-hook	bodica		
bal, balate	722	to hurt, to mention	boleti		
bala	722	young shoot	bil	bel	vel
bala	722	sick	bolan		

bhaga	743	gracious lord (gods)	bog	bhagwa:n	
bhagavat	743	prosperous	bogat	bhagavat	
bhara	747	gain, prize, booty	bera	bha:r	bharr
bhara, bharat	747	shout	barati	bha:r 'force'	bha:r force'
bharts, -ayati	748	to abuse, menace	brcati		
bhiyas	758	fear, apprehension	bojazen	bhaya	bhaya
bhiyasana	758	fearful, timid	bojazen,-ljiv	bhi:shan	bhi:shan
bhlas', -ate	771	to shine, glitter	bleščati		
bhratri	770	brother	brat	bhra:ta:	?
bhru	770	the brow	obrv	bhru:	
bhu, bhavati	760	to exist, live, abide	bivati		
bhuta	761	being, existing	biti	bhav	
bhugna	750	bent, curved, cowed	upognjen	jhukna:	jhukna:
bhur, bhurati	760	to stir, palpitate	buriti		
bhurloka	763	world, earth	brlog 'den'	bhu:lol	bhuin
bija/vija	732	origin of poem	viža	bi:j	bi:
bil/vil, bilati	732	to split, cleave	vile 'forks'		
bis', bes'ati	732	to go	bežati 'flee'		
bis, bisyati	732	to urge on, incite	bezati		
brinh, -ayati	735	to further, promote	brigati se		
bru, braviti	742	to speak, say, tell	praviti		
budh, bodhati	733	to wake, wake up	buditi	bodha mem rahna:	
buddha	733	awakened	buden		
budhna	735	bottom, ground	poden		
etc.					

Names

In addition to grammatical and linguistic affinities between Indo-Aryan languages and Slavic languages in particular Slovenian, there are also some similarities in the Slovenian family names and names found on the Indian sub-continent.

HINDU NAMES	MEANING	SLO. NAMES
A:pi	friend, ally, acquaintance	Apih
Apa:ra:	boundless, with no rival, unequalled	Opara
Archana:	respected	Arčan, Arčon
Archin	shining, devout	Arčin
Arha	deserving	Arh
Ariha	killing enemies	Arih
Arjuna	white, clear, fair in visage and mind	Eržen
Arka	ray, learned man, (Skt. singer)	Arko
As'mana	stone, gem, thunderbolt	Ažman
As'na:	eating a lot, voracious	Ažnik
avasanika (Skt)	being at the end	Avsenek
Bahula	broad, ample, large, abundant	Pahulje
Bachil (Skt vacana)	one who speaks much, orator	Bačnik
Bahuvata	strong-armed	Bahovec
baida/vaida(Skt)	wise man, learned	Bajda/Vajda
Bhanu	light, glory, king, master	Ban
bharaga(Skt)	going under load	Baraga
Bharu	bearing a load, lord, master	Barič
bhasaya(Skt)	to resemble a bird	Basaj
bhela(Skt)	timid, ignorant, foolish	Belej
balihara(Skt)	paying tribute, taxes	Belihar
Bhanga	to break, destroy, destroyer	Benko
Bharanyu	striving to fulfil, protector, master, friend	Beranek

bhruna(Skt)	child, boy	Brunčič
Bukka:	the heart, loving, sincere	Buko-vec
Etc.		
(Gandhi)		(T. I. S.)

Note: For Sanskrit transliteration, Monier-Williams' A Sanskrit-English Dictionary convention, where possible, was followed, but long and short vowels are not indicated. The pronunciation is similar to English, but C is pronounced as CH and S' as SH. For Hindi and Punjabi, Chaturvedi and Tiwari's *A Practical Hindi-English* transliteration was followed. The pronunciation is similar to English and : denotes a long vowel. For Slovenian Č is pronounced as CH, J as Y, Š as SH and Ž as J in French.

Numerical Comparisons

An attempt was made to determine, on a percentage basis, how many cognate words Vedic Sanskrit and Classical Sanskrit share with Slovenian. To compare Vedic Sanskrit with Slovenian, the vocabulary of Macdonell's *A Vedic Reader for Students* was used. All entries were compared, except names and derivatives for a total of 1612. Out of 1612, some 330 were similar to Slovenian in sound and meaning. This is 20.5%. For Classical Sanskrit comparison, *Sanskrita Jnana-Jyotih* textbooks 1 and 2 were used. The vocabulary consists of 735 words, where 74 were similar to Slovenian for a 10% similarity.

Some additional NUMERICAL COMPARISONS of similarities (%) with Slovenian:

Language	Similar.	Remark
Russian	~80	
Vedic Sanskrit	~20	
Classical Sanskrit	~10	
Lithuanian	~10	
German	~6	Half of these are technical terms such as anode, seminar, selenium, etc.
Irish Gaelic	~3	A third of these are technical and trade names, e.g. doctor, captain, etc.
Latin	~2	
Persian	~1	

Divergence of Sanskrit and Slovenian

Despite of numerous similarities in the two languages, there is no common recognizable terminology for metals. The discovery and dating of the 'Ice Man' in the South Tyrol with his copper axe, indicates that metals were known 5,200 years ago. This could be construed that the two languages separated before metallurgy became known.

Genetic Affinities

Barbujani (1997) agrees with other authors such as Renfrew and Guglielmino who see linguistic affinities as clues to population history. He cites Sokal who wrote, that a common language frequently reflects a common origin, and a related language indicates a common origin too, but farther back in time. He also makes an observation, that the partial correlations with language are stronger for Y chromosomes than for mtDNA. This suggests that when women were incorporated into a group speaking a different language, they passed to the future generations, along with their own genes, their husbands' language.

Kivisild et al. (1999) in their analyses of Indian and western-Eurasian mtDNA lineages (Czechs, Slovaks and Russians included), found an extensive deep late Pleistocene (51,000-67,000 BP) link between contemporary Europeans and Indians provided by the mtDNA haplogroup U. This probably predates their spread to Europe. Only a small fraction of the 'Caucasoid-specific' mtDNA lineages found in Indian populations can be ascribed to a relatively recent admixture, which they date at 9,300+- 3,000 BP and also conclude that this does not support a recent massive Indo-Aryan invasion, at least as far as far as maternally inherited genetic-lineages are concerned.

Malaspina et al. (2000) have analyzed the Y chromosome in various populations and have broken it down into networks such as 1.1, 1.2, 1.3, 2.1, 3.1G, 3.1A, 1.4 and others. They conclude that 1.1, 2.1, and 3.1G coalesce in the Paleolithic. Underhill et al. (2000) date the expansion of humans out of

Africa a ~45,000 BP. The following is the indicated presence in some Indo-Aryan, Dravidic and Slavic populations:

Y chrom. network.	1.1	2.1	3.1G	Total
Brahui	0.20	0	0.07	0.27
Punjabi	0.23	0	0.15	0.38
Sindhi	0.30	0.05	0.15	0.50
Slovak	0.43	0.09	0	0.52
Ukrainian	0.33	0.17	0	0.50
Polish	0.31	0.03	0.19	0.52

Two networks 1.2 and 3.1A coalesce in a window of time post-dating Last Glacial Maximum (ca. 20,000 BP):

Y chrom. network.	1.2	3.1A	Total
Brahui	0.27	0.33	0.60
Punjabi	0	0.46	0.60
Sindhi	0.05	0.35	0.40
Slovak	0	0.39	0.39
Ukrainian	0	0.50	0.50
Polish	0.06	0.39	0.45

Network 3.1A clearly discriminates between Western and Eastern European (and Indian) populations (Malaspina et al.). In Portugal and Central Spain it is not found; in Southern Spain it is present at .02 level. On the Italian peninsula, it is present at .10 in Apulia and Venetia. East of Italian peninsula, the presence increases and is present at higher levels (~.45) in Central and Eastern Europe and also on the Indian sub-continent (~.38) level.

Network 1.3, which dates back to the last 3,000-4,000 BP, is common in Sardinians, but is not present in Indians or Slavs.

Dating of Migrations

Based on mt DNA sequences in ancient Australians, Adcock et al. (2001) see evidence that, there is morphological evidence for the survival of Neanderthal genes in Europe after the arrival of Cro Magnon people. Underhill et al. (2001), suggest that modern humans dispersed across Africa and into Western Asia, Asia and Melasia and then into Northern Eurasia. Overlain on these events are the contractions with the Last Glacial Maximum (LGM), and subsequent post-glacial expansion of both hunter-gatherers and agriculturists. Underhill et al. (2000) sees evidence that small sub-group of humans separated into several fairly isolated groups. These groups remained small throughout the last glaciation before they underwent roughly simultaneous expansion in size.

Richards et al. (2000) used founder analysis method for analysis of nonrecombining DNA sequence data, with the aim of identification and dating of migrations into new territory. They conclude that:

(i)   There has been substantial back-migration into the Near East,
(ii)   The majority of extant mt DNA lineages entered Europe in several waves during the Upper Paleolithic (ca. 45,000 BP),
(iii)   There was a founder effect or bottleneck associated with the Last Glacial Maximum, 20,000 years ago, from which derives the largest fraction of surviving lineages, and
(iv)   The immigrant Neolithic (ca. 9,000 BP) component is likely to comprise less than one-quarter of the mtDNA pool of modern Europeans.

Richards et al. (2000) using mtDNA trace lineages back into prehistory, through the Last Glacial Maximum (LGM), to the first settlement of Europe by anatomically modern humans, almost 50,000 BP. They have found that, the first four migrations from 45,000- 9,000 BP brought over 90% of the

genes to Europe and that, less than 10% of the population came to the present regions in the last 3,000 years - Alps 6.9%, South-eastern Europe 8.2%, and North-eastern Europe 5.5%.

Based on linguistic and genetic information, Štih (2000) appears to be correct in his assertion that all those presentations and assertions bespeaking the settlement of the Slovenes in the eastern Alpine region at the end of 6th century are a historical myth.

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Abstract

Languages have a great evolutionary significance, because linguistic affinities are also clues to population history. A common language frequently reflects a common origin, and a related language indicates a common origin too, but further back in time (Barbujani 1997). Comparison of Sanskrit and modern Indian languages Hindi and Punjabi with Slovenian belonging to a Slavic language family shows that there is a linguistic similarity and the older the language the greater is the resemblance. Sanskrit, especially Vedic Sanskrit, which is the oldest, exhibits more similarities to Slovenian than Hindi or Punjabi. A statistical comparison shows that~20% of Vedic words are same or similar to Slovenian in sound and meaning. Similar comparison with the Classical Sanskrit, shows ~10% similarity. This resemblance is not limited to linguistics, but can be further seen in some family and also some topographical names. This can be taken as indication that Slovenian language has changed relatively slowly over the millennia. Within this context, it would be reasonable to expect, that a modern Slovenian, familiar with the dialects and other Slavic languages, should be able to recognize words and meanings of the Venetic language, if it belongs to the same language family. In addition to linguistics, there are also genetic similarities between Slavs of Europe and the peoples of the Indian sub-continent.

Povzetek

Jeziki imajo velik pomen pri ugotavljanju razvoja, saj so jezikovne podobnosti lahko ključ do zgodovine ljudstev. Podoben jezik pogosto kaže na skupen izvor in sorodni jeziki tudi kažejo na skupen izvor, vendar dlje v preteklosti (Barbujani 1997). Primerjava sanskrta in sedanjih indijskih jezikov hindija in pandžabija s slovenskim, ki pripada slovanski skupini, kaže podobnosti in čim starejši je jezik, tem več jih je. Sanskrt, posebno vedski sanskrt, ki je najstarejši, kaže več podobnosti s slovenskim jezikom kot hindi ali pandžabi. Statistična primerjava kaže, da je okoli 20% vedskih besed enakih ali podobnih slovenskim v zvenu in pomenu. Za klasični sanskrt je podobnosti okoli 10%. Ta podobnost ni omejena na jezikoslovje, temveč je opazna tudi pri nekaterih družinskih in topografskih imenih. To nam nakazuje, da se je slovenščina v zadnjih tisočletjih le počasi spreminjala. Glede na to bi lahko pričakovali, da bi sedanji Slovenec, ki pozna narečja in druge slovanske jezike, lahko prepoznal besede in pomene venetskega jezika, če ta spada v isto jezikovno skupino. Poleg jezikovnih obstajajo tudi genetske podobnosti med Slovani v Evropi in ljudmi v Indiji.