



A Glottochronological Insight into Hindi and Telugu Lexicon

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Abstract

The prime objective of this study is to explore the degree of similarities between Hindi and Telugu words using glottochronological approach. In doing so a representative sample of 281 basic words were taken from Hindi followed by listing their equivalents in Telugu. The findings revealed 51 words with partial phonological similarity between Hindi and Telugu. Furthermore, the study also revealed that these two languages had belonged to one common parent language 1138 years ago.

Introduction

Glottochronology is a method of lexicostatistics to compute not only the degrees of lexical similarities between two languages but also to find relationship between languages in terms of when they diverged from each other. The method of Glottochronology proposed by Swadesh (1955) assumes that common words in languages are maintained at a definite rate. According to Swadesh, (i) the rate of retention of vocabulary items in the basic core is constant through time; (ii) the rate of loss of basic vocabulary is approximately the same in all languages; (iii) the rate of loss was arrived at by testing lexical loss in languages with a long series of texts. On the basis of tests, 81% of loss is reported over the period of 1000 years. Once we know the percentage of cognates within the core vocabulary (281 in the present case) for any pair of languages, the length of time that has elapsed is computed to see when the two languages began to diverge from a single language. The following list of basic vocabulary, taken from the similar study of Jha (2020), has been prepared in terms of Hindi-Telugu 281 words considered to the representative samples.

1.	A-ek-oka-d	67.	family-pariwar-kutumbam-d
2.	About-ke bare me-gurinchi-d	68.	father-pita-tandri-d
3.	Above-upar-paina-d	69.	foot-pair-padham-d
4.	Add-jorna-kurchu-d	70.	few-kuchh-konni-d
5.	After-bad me-taruvata-d	71.	find-pana-kanuko-d
6.	Again-punah-malli-d	72.	first-prtham-pradhama-s
7.	Air-hava-galli-d	73.	follow-anukaran karna-anusarna-s
8.	All-sab-anni-d	74.	food-bhojan-ahara-d
9.	Almost-lagbhag-dadapu-d	75.	for-ke liye-kosam-d
10.	Along-sath me-patu-d	76.	form-roop-rupam-s
11.	Also-bhi-kuda-d	77.	from-se-nundi-d
12.	Always-hamesh-sada-d	78.	get-paana-ponduta-d
13.	And-aur/evam-mariyu-d	79.	girl-ladki-am'mayi-d
14.	Animal-janvar-jantuvu-s	80.	give-dena-ivalani-d
15.	Another-ekaur-marod	81.	go-jana-vellandi-d
16.	Answer-uttar-javabu-d	82.	good-achchha-manchi-d
17.	Any-koi bhi-edhooka-d	83.	great-mahan-goppa-d
18.	Around-charo or-chuttu-d	84.	group-samuh-samuham-s
19.	Ask-puchhna-adugu-d	85.	grow-badhna-perugu-d
20.	At-par-vadda-d	86.	had-tha-vundi-d
21.	Away-dur-duranga-s	87.	hand-haath-ceyyi-d
22.	Back-pichhe-tirigi-d	88.	hard-kathin-kathinamina-s
23.	Bad-bad(tamij, nashib)-cedu-d	89.	has/have-hai-kaligiundi-d
24.	Ban-pratibandh-nisedam-d	90.	he-vah-atanu-d
25.	Because-kyonki-kabatti-d	91.	head-sir-tala-d
26.	Become-hona-marindi-d	92.	hear-sunana-vinu-d
27.	Bed-bistar/bed-mamcham-d	93.	help-madadkarna-sahayam-d
28.	Before-kephale-mundu-d	94.	here-yahan-ikkada-d
29.	Begin-shrukarna-modhalu-d	95.	high-uncha-adhika-d
30.	Below-niche-krinda-d	96.	hot-garm-vedi-d
31.	Between-kebich me-madhya-d	97.	house-ghar-illu-d
32.	Big-bade-pedda-d	98.	how-kaise-ela-d
33.	Book-pustak-pustakam-s	99.	I-mai-nenu-d
34.	Both-dono-rendu-d	100.	Idea-vichar-alochana-d
35.	Boy-ladaka-baludu-d	101.	If-yadi-unte-d
36.	Bring-lana-tisukuni-d	102.	Important-mahatpurn-mukyam-d
37.	But-parantu/lekin-kani-d	103.	In-me-lo-d
38.	By-dwara-dwara-s	104.	Is-hai-undi-d
39.	Call-bulana-pillupu-d	105.	Item- vastu-vastuvu-s
40.	Can-sakna-cheyavachu-d	106.	Just- keval/abhi-kevalam-s
41.	Canister-kanaster-dabbi-d	107.	Keep- rakhna-unchendu-d
42.	Car-kar-karu-s	108.	Kind- dayaalu/prakaar-rakam-d
43.	Carry-le jana-taralimpu-d	109.	Know- Jaanana-telusu-d
44.	Change-badalna-marpu-d	110.	Land- bhoomi-bhumi-s
45.	Children-bachche-pillalu-d	111.	Large- vishaal-vishaalmina-s
46.	City-shahar-nagaram-d	112.	Last- antim-antima-s
47.	Close-band-daggaraga-d	113.	Later-baad me-taruvata-d
48.	Cold-thandha-challani-d	114.	Learn- seekhana-telusuko-d
49.	Come-aanaa-randi-d	115.	Leave- chhodna-seluvua/vadile-d
50.	cough-kaph-daggu-d	116.	Left- baaen-edama-d
51.	country-desh-desam-s	117.	Let- chalo-vilu-d
52.	cut-katna-koyu-d	118.	Letter- patra/chiththi-lekha-d
53.	daily-dainik-roju-d	119.	Life- jindagi/jevan-jivitam-s
54.	day-din-pagalu-d	120.	Light- prakaash-kanti-d
55.	different-bhinn-vividha-d	121.	Like- jaisa/pasand-vanti/istam-d
56.	do-karna-ala-d	122.	Line- rekhaa-rekhaa-s
57.	door-darwaja-talupu-d	123.	List- suchee-jabita-d
58.	down-niche-kinda-d	124.	Little- thoda-cinna-d
59.	earth-dharti-bhumi-d	125.	Live- jeena/rahna-brathuku-d
60.	eat-khana-tinu-d	126.	Long- lamba-dirgha-d
61.	end-ant-mugimpu-d	127.	Look- nazar/roop-chudu-d
62.	enough-paryapt-calud	128.	Lose- khona-kolpotaru-d
63.	every-pratyek-prati-s	129.	Main-pradhaan -pradhaanam-s
64.	example-udahran-udaharana-s	130.	Make- banana-tayaru-d
65.	eye-aankh-kanti-d	131.	Man- aadmee-manisi-d
66.	face-chehra-mukham-d	132.	Many- anek/bahut-aneka-s

133.	May- sakna-me-d	199.	Seem-lagna-anipinchi-d
134.	Me-mujhe-naku-d	200.	Sentence-waakya-vakyam-s
135.	Mean- matlab-artham-d	201.	Set- samuh-sariga-d
136.	Meet- milna-kaludham-d	202.	She- vah-ame-d
137.	Mid- madhy-madhya-s	203.	Should-chaahiye-chadavalsina-d
138.	Milk- dudh-pallu-d	204.	Show-dikhana-kanipinchu-d
139.	Mistake- galati-tappu-d	205.	Side- disha/paksh-vaipu-d
140.	More- adhik/jyadaa-d	206.	Small- chhota-cinna-d
141.	Morning- subhah-udayam-d	207.	So-so/isliye-kabatti-d
142.	Mother- maa-talli/amma-s	208.	Some- kuchh-konni-d
143.	Mountain- pahaar-parvata-s	209.	Something- kuchh-kuchh-edo-d
144.	Move- chalna-kadalika-d	210.	Sometimes- kabhi-kabhi-konni-d
145.	Much- bahut-cala-d	211.	Song- geet-pata-d
146.	My- mera-na-d	212.	Soon-jaldi-tvaralo-d
147.	name-naam-peru-d	213.	Sound- dhvani-dhvani- -s
148.	near- pass-dagera-d	214.	Spell-jaadu/mantra-mantram-s
149.	need- jaroorat-avasaram-d	215.	Start- arambhkarna-arambam-s
150.	never-kabhinahi-eppudu-d	216.	State-isthiti-rasta/stithiti-s
151.	new-naya-kotta-d	217.	Still- phirbhi-ippatiki-d
152.	next- aglaa-taruvata-d	218.	Stop- rok-aphu/aghu-d
153.	night- raat-ratri-s	219.	Story- kahaani-katha-s
154.	no-na/nahi-na-s	220.	Study-adhyayan-Adhyayan-d
155.	now- ab-ippudu-d	221.	Such- aisa-ituvanti-d
156.	number- sankhya-sankhya-s	222.	Sweets- meetha-svitlu-d
157.	of-ka-ka-s	220.	Take- lena-thisikovadam-d
158.	off-band-midhanunchi-d	221.	Talk- ba:tchi:t/charcha-charcha-s
159.	often- aksar-taracu-d	222.	Tell- kahna-cheppandi-d
160.	oil- tel-nuney-d	223.	Than- keeapeksha-kante-d
161.	old- praana/budha-pata-d	224.	That- kee/taaki-a-d
162.	on- per-pai-d	225.	Their- unke-vari-d
163.	once- ekbaar-okasari-d	226.	Them- unhe-vatini-d
164.	one-ek-okati-d	227.	Then- to-appudu-d
165.	only- keval-matrame-d	228.	There-wahan-akkada-d
166.	open- khula-viphu-d	229.	These- in-ivi-d
167.	or- ya/athwaa-leda-d	230.	They- way-vallu-d
168.	other- annya-itara-d	231.	Thing- baat-visayam-d
169.	our- hamaara-ma-s	232.	Think- sochna-alochinchu-d
170.	out- bahar-bayata-s	233.	This- yah-idhi-d
171.	over-ooper-paiga-d	234.	Those-un-avi-d
172.	own- apna-sonta-d	235.	Thought- vichaar-alochana-d
173.	page- pristh/page-peji/page-s	236.	Three- teen-mudu-d
174.	Path-path-margam-d	237.	Through-jariye-dvara-d
175.	Paper-kaagaz-kagitam-d	238.	ticket-tikat-tiket-s
176.	Part- hissaa/bhaag-bhagam-s	239.	time- samay-samayam-s
177.	People- log-prajalu-d	240.	to- tak/se-ku-d
178.	Per-prati-prati-s	241.	together-saath/eksaath-kalisi-d
179.	Picture- chitra-chitram-s	242.	too- bhi-cala-d
180.	Place- jagah-sthanam-d	243.	took-liya-pattindi-d
181.	Plant- paudha-mokka-d	244.	tree- ped-cettu-d
182.	Play- khel-natakam/adhuko-d	245.	try- koshish/prayaas-prayatna-s
183.	Point- bindu-chuka/main-d	246.	turn-mod/ghumaav-malupu-d
184.	Present- vartmaan-prastutam-d	247.	two- do-rendu-d
185.	Put- daalna/rakhna-pethu-d	248.	under-andar-kinda-d
186.	Read-padhna-chadavandi-d	249.	until-jab tak-varaku-d
187.	Really- sachmuch-nijanga-d	250.	up- upper-paiki-d
188.	Right- sahi/daahine-kudi/nijam-d	251.	us- hamen-maku-d
189.	River- nadi-nadi-s	252.	use- upyog-vadu-d
190.	Run- daud/chalaana-parigetud	253.	very- bahut-cala-d
191.	Said- kaha-annaru-d	254.	walk- tahalna-nadici-d
192.	Same- samaan-ade-s	255.	want- chahna-kavali-d
193.	Saw-dekha-chusa-d	256.	was- tha-undi-d
194.	Say- kehna-cheypu-d	257.	watch- nigraani/ghadi-chudu-d
195.	School- vidyaalai-pathasala-d	258.	water- paani-niti-d
196.	Sea- samudra-samudram-s	259.	way- raasta/maarg-margam-s
197.	Second- dwitiyai-rendava-d	260.	we- ham-memu-d
198.	See- dekhnacudandi-d	261.	well- achhitarah-baga-d

262.	what- kya-emi-d	272.	with- saathmein-tho-d
263.	when- kab-eppudu-d	273.	without- kebina-lekunda-d
264.	where- kahan-ekkada-d	274.	word- shabd-padam-d
265.	which- kaun/kaun se-idi-d	275.	work- kaam-pani-d
266.	while- jabkee-ayite-d	276.	world- vishv-prapancha-d
267.	white- saphed-telupu-d	277.	write- likhna-vrayu-d
268.	who- kaun-evaru-d	278.	year- saal-samvatsaram-d
269.	whom- kisko-virilo-d	279.	you- tum-miru-d
270.	why- kyon-enduku-d	280.	young- yuva-yuva-s
271.	will- marjee-redi-d	281.	your- tumhara-mi-d

In the comparison of Hindi and Telugu, two facts come on surface. Firstly 51 words out of the 281 pairs were registered as probable cognates. Statistically, if we divide 51 by 281, we get .18 (18%). In other words, one can say here that the degree of similarity between Hindi and Telugu is 18%. This is the value which will also be used for C in the time depth formula.

Secondly, the study finds time depth of Hindi-Telugu as to when these two languages started separating from a common parent language. In doing so, the following time depth formula of Swadesh (1956) was used:

Time Depth Formula:

$$t = \frac{\log C}{2 \log r}$$

Where

t = time of separation

c = percentage of shared core vocabulary

r = the glottochronological constant (= 81%)

The result of computing the values using the above formula is as follows:

$$t = \frac{\log .18}{2 \log .81}$$

After computing the log value in the above formula, the result is as follows:

$$t = \frac{1.715}{2 \times .217}$$

$$t = \frac{1.715}{.434}$$

$$t = 3.951$$

The quotient of 1.715 divided by .434 gives 3.9516129032 which is the indicated time depth, 't'. This needs to be read further as Hindi and Telugu separated from each other about 3951 years ago.

Conclusion

Meeting the objectives of the study, the study firstly has revealed the degree of similarities between Hindi and Telugu which was found to be 18%. Secondly, the study reveals that Hindi and Telugu belonging to two different language families-Indo-Aryan and Dravidian respectively, started separating from each other about 3951 years ago. The authenticity of the data is subject to further research.

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