

Dear Reader

The following is an excerpt from the book which I am working on called “The Language of the Sumerians -Phonetics, Grammar, Vocabulary, Culture terms and Phonology”, which I hope to publish in English and Hungarian. This section is the initial introduction to Sumerian vocabulary, phonology and our understanding of its pronunciation and proposed rules which had reshaped it from a proposed earlier protolanguage based on Uralic linguistics.

4 Sumerian Phonology

The basic pronunciation of the sounds of the Sumerian language, that is its “phonemes” and the key sound changes it went through are summarized in this chapter. This is an important guide to pronounce the Sumerian sounds, as far as it is possible with our somewhat limited knowledge of it. This section also introduces many basic Sumerian words, which is the first step in getting familiar with its vocabulary. Systematic sound changes are also proposed to show that the comparison to other languages aren’t random, but follow certain rules of change. Most of the words compared are the basic type, which are least likely to have been borrowed. These are quite important to various critics of the comparisons I made. Throughout this book, I have included comparisons to FinnoUgrian protolanguage, which has many common features to Sumerian, in vocabulary, phonetics as well as grammatical elements. I am not a supporter of a common genetic origin of the FinnoUgrian language community, but feel that they are the scattered remnants of an earlier larger culture group, whose various local groups adopted. The reason for my belief is that there are huge genetic, linguistic and cultural differences amongst them, which show no signs of being from a single central core from where it is claimed they come from. Besides the words in Sumerian that are shared with proto FinnoUgrian and Hungarian, there are many other words which have no other linguistic ties in Hungarian than Sumerian. That does not mean that there aren’t common words aslo with Finnish, Dravidian, Etruskan and Turkic languages as well, not to mention the obvious borrowed term in the Semitic languages from Sumerian. I cannot go into listing these, for my goal here is mainly to introduce Sumerian phonetics and sound changes. Therefore I will illustrate the protoword when available, then its Sumerian equivalent and if available, the Hungarian equivalent. Naturally the orthography of all of these have differences, which earlier chapters have introduced. The format will be:

*protoword > Sumerian word & meaning, Other_Language: and word & meaning

These reconstructed proto languages represent the most likely phonetics of the word, before they evolved into the various sister languages, including Sumerian. They illustrate a form which “may have” existed long before any of these languages were written down. Naturally none of the languages are identical to Sumerian as that would mean that it was the same language and would require little explanation. However even if they were once the same language, that has been covered up long ago by thousands of years of unique changes leading to today’s languages. To claim such ties are not my goal or concern. These languages all have their differences in phonetics, vocabulary and grammatical structure, but they also have a very large number of similarities, which could be an aide in advancing our knowledge of Sumerian, just as they were in the early phases of deciphering this language, when they were first brought to bear in solving the complex Sumerian puzzle.

There are problem areas with our precise understanding of the phonology of the language, since it was originally written in a pictographic “script” which have their early prototypes in the symbols found in the eastern part of the Carpathian Basin, in Transylvania more than a thousand years before being introduced into Mesopotamia. The local Sumerian writing eventually changed these pictographic symbols into straight geometric wedge impressions on soft clay, which are called “cuneiform” today.

These were further changed in various periods into modified forms. Only much later was it written down alphabetically in bilingual texts by Akkadian and Babylonian Semitic scribes. Because Semitic is a totally different language family, with its own unique set of phonemes, there are areas of Sumerian pronunciation, which could not be reproduced by them, such as the palatal sounds so prevalent in Finno-Ugric languages for example, since they did not have similar phonetics to Sumerian and were missing some of its sounds. This is much like trying to write the pronunciation of Chinese with a European alphabet. We could only write a very crude approximation, which more than likely no Chinese would understand.

It is generally known that Sumerian had no consonant clusters at the beginning or end of its words and neither did Akkadian which was heavily influenced by them. They don't exist in Finno-Ugric languages either.

The tendency of late Sumerians and the clerics who used it as the language of religion and literature after their demise, tended to drop the softened ending of spoken words, like g, k, l, d. Even the spoken, late Sumerian may have started this trend already. This has also occurred in Hungarian in a much later age.

Sumerian also deleted most of the consonant clusters within the root words. Some of this may also be due to the lack of symbols to represent such phonemes by Semitic scribes. This minimalization of the already short root words had the negative consequences of causing a very large number of homonyms, that makes the spoken form of the language, difficult to understand for us, if it was truly pronounced as the late Semitic references wrote them. I suspect, that at least some of this was a later simplification of the scribes and did not reflect the earlier form of the spoken language just as various longer forms show. Perhaps it was only written this way as a sort of a shorthand. Typical internal consonant clusters which are found in proto-FU words, which have their Sumerian equivalent words, changed them into single consonants in the following way.

*lm or *r m > m,
*nt or *mt > d,
*ŋk > g,
*kt > t~d,
*mp > bb,
*jŋ > g,
*lt > l, *lk > l, *lw > ll,
*r + Consonant > r,
*jl > l,
*ńć > g,
*ńś > š,
*rw > r_,
*w = bh > b

The consonant clusters, which did remain in Sumerian words appear to be transitions between double word stems or the root word and its formatives, which tend to repeat the previous trailing consonant of the root so that words like "sag-a" was written as "sag-ga". This created what are called geminated consonants. They could have been pronounced that way even though the geminated consonant wasn't part of the added morpheme. This is also done in Hungarian morphemes for easier transition from one syllable to the next.

Faced with these many truncated words, a few of which have longer and more complete archaic forms, some have postulated that perhaps Sumerian used tones, like Chinese does to differentiate the

homonyms. I seriously doubt that, because agglutinative languages don't normally use such devices, especially since the vowels carry rarely any information in the appended morphemes of the word which allows the use of vowel harmony in the phrase. It is also very likely that all the vowels were not differentiated by the later records, thereby covering up some of the differences, which would help us greatly, to recognize the various forms of each spoken root word. Researchers have claimed that there is evidence that other vowels were also used, even though they weren't marked in the late Akkadian records. Such indication as alternate spelling of words.

The many deletions are the key reasons why Sumerian appears so different and so isolated from the other languages of the world and why it has so many homonymic root words that are un-differentiable without using syntax and appended morphemes. Many such "difficulties" however are easily overcome in simple examples even by an amateur, even though the professional linguist cannot accept it due to their rigid methodology and avoidance of generating sound rules. Even with syntax it can be difficult to tell which homonym is being used, so that the context of the sentence is also important. Whether this was really the way the spoken language was pronounced or this was a later simplification is one of the mysteries that is hard for us to solve. The written form, due to its different symbols for some of the commonly sounding words is a little bit less of a problem than the supposed spoken form, because homonyms may have different symbols, whose alphabetic forms are generally indicated to us with accents and numbers. These will be explained later. Morphemes on the other hand are written as phonetic syllables rather than by multi-valued symbols. Based on comparisons with Akkadian loanwords from Sumerian, it also appears that the vowels had a short and long forms also, which is quite common in later FU languages. The Akkadian loan words also imply that early Sumerian did not have voiced stops, just as early FinnoUgrian and the b, d, g was actually unvoiced, aspirated sounds like bh, dh, gh.

4.1 Vowels

Sumerian supposedly has at least four vowels: **a, e, i, u**, and these are the only ones used in the early Akkadian vocabulary references. The "a" was like the "a" in "all", e as in "end", i= as the e in "bee", u as the "oo" in "soon". Poebel has postulated that there was also an "o". while Liberman has stated that "u₄" is an "o" sound. I have also noticed that there tends to be a high incidence of alteration between the "u" and the "a", with some root words, which implies that in these cases the original sound could have been an intermediate "o" rather than simply an "a" or "u", and perhaps they were written at times as "a" and at times as "u". To make things worse "e" and "i" are often also undifferentiated, and in different dialects they changed. Edzard maps out the vowels with both long and short forms as: a, ā, e, ē, i, ī, o, ō, u, ū. The fact that there was a long and short vowel can also be proven by the fact that the syllabic CV phonemes normally have two types, which probably indicated a short vs. a long form of the vowels. For example la, la₂; ne, ne₂; re, re₆; etc. This is also a common characteristic of later FU vowels to have long and short forms, but not diphthongs. Some indicate the length of the vowel with an accent, like Hungarian, while others by doubling of the vowel, like Finnish. Sumerian long vowels however were not normally indicated in the bilingual texts.

			i		u	
	i	u		e	o	
	e	a	(or)	a		
	front	back		front	mid	back

Bobrova and Militarev (1989) have also proposed an eight vowel system for Sumerian, like the following:

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      o
    a      u
    ä      ü
    i      e
      ə
  
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It is very unlikely that there were only 4 or 5 vowels, if based on nothing more than the excessive number of homonyms and confusion that the shortage of vowels have caused. If we compare the Bobrova and Militarev list of proposed Sumerian vowels to the Finno-Ugrian vowels they are much the same and just mapped in a different format. Uralic (early Finn-Ugor) vowels are shown in the following table using the UPA symbol format followed by IPA format enclosed by slashes.

4.1.1 Proto Uralic Vowels

	Front Vowel “F”		Back Vowel “B”	
	unrounded	rounded	unrounded	rounded
close	/i/	/y/	/u/	/u/
mid	/e/			/o/
open	/æ/		/ɑ/	

F.U. rounded vowels were believed to be restricted originally to initial syllables. There were no diphthongs or long vowels in the older Uralic version of Finno-Ugrian however long vowels became quite common later especially following word truncations.¹ The following examples are a summary of common phonetic changes found in Sumerian, which were compared to the earlier reconstructed proto Uralic words.

The lead A

The lead A at the start of the word found before a liquid + vowel or a nasal is deleted, otherwise it remains “a”. If followed by “r” it may be either an “a”, “u” which may actually represent an “o” or in the Emesal Dialect “e”. The two forms used for “r” perhaps indicates two different forms of “r”, which was proposed also by various experts. Sumerian eliminates most consonant clusters, with a single phoneme or inserts a vowel between them. This is quite similar to Hungarian but to a greater degree.

A + Liquid consonant + vowel

*aja > _ɲe=chase { *j>ɲ~g};	Hu: haj-t =to drive animals
*ala > _lá =hang down,	Hu: ló-g =hang down
*aɲe > _ku=mouth, _ká=gate, door {ɲ>g>k};	Hu: ajk=lipp
*alu > _lu-l =false	Hu: ál=false

The Sumerian nasal velar “ɲ” which is like “ng” in finger, had several proto phoneme sources, which could not be recorded by the early scribes, because Akkadian did not have letters for j, ñ or dj or other

¹ / Wikipedia, “The Proto-Uralic Language”, 2008

palatized consonants. Instead they substituted “ŋ”. This change could have also occurred in late Sumerian also and was similar to early Hungarian dialectal variations from the Middle Ages with variations of like ñ~y~gy. Gy is a little bit similar to dj without any transition between the two consonants.

A + Nasal (m,n, ŋ) deletes the lead A

*amta (give food/drink, give) > dehi=tax, dah=ad to (nt>d) Hu: ad=give, add together (nt>d)
 *aŋke > _gun= worry { *ŋk>g>k } Hu: gond=worry
 *ame (sit) > _me=to be,exist Ostjak/Finn.. ames =sit, be in place.
 *aŋe > _ku Hu: ajk= lip

A + r does not delete the lead A

*arappe (relative of wife) > erib₂ (wife); Hu: ara =bride, ro-kon=relative
 *arwa > ára = to praise. Hu: ár-ad-oz =to praise and talk up someone
 *are > ar₂ =spoil, sickness Hu: ár-t=damage, hurt; herv-ad=wilt; orv-os=physician
 ? > ara, ar =to mill Hu: ör-öl =to mill

A followed by a non nasal dual consonants

*atta > ada =father; Hu: atya =father; (ty=palatized t)
 *appe > abba =father Hu: apa =father;
 *alte > alad=protective spirit Hu: áld =bless;
 *ajŋe > a’gu=brain; Hu: agy=brain;
 *akta > ag_ =to hang; Hu: akasz-t =to hang

Otherwise

*aća > asa₅=field Hu: aszó=field next to a brook
 *aše-la =settle > uš_ =foundation Hu: szálló =lodging
 *are > ur, ar=flood Hu: ár=flood;

The “ŋ” which is usually written as ġ in Sumerian references was the substitute for a range of palatized sounds found in proto Uralic, such as j, ñ, dj etc since such palatal sounds did not exist in Akkadian, with the exception of “sh”. Later this ġ =ŋ sound also alternates with the g and is often how it was represented in Akkadian.

Internal –A

The internal A becomes an “i” or “e” if followed by a liquid plus Vowel sound usually, although its conditional rule of change is more complex than that. A becomes a ~ u followed by a nasal or “r”, otherwise it remains “a”. However there appears to be two types of “r”, since there are two types of sound changes associated with “r”. If the word final liquid sound is deleted the vowel also becomes “u”.

A + Liquid +Vowel, becomes e or i

*kaja =toss > _illu-ru =throwing stick; (k>g>h>ø) Hu: haj-it=toss
 *kajle =bent > gil- =twist, bend, bow; Hu: hajl =bend, to bow
 *tala-se > del-lu =pole,mast; Finn: talase

Double consonant plus “a” remains “a” or changes to “u”

*kal.ke > gu_ =net; { *k>k/g/h } Hu: háló=net
 *katte? > ha-, hé =allow Hu: hagy, -hat- =let, allow
 *katte > haš₄ =back, abdomen Hu: hát =back, has=abdomen

Followed by a nasal a becomes a or u

*lama > lám=captivate, charm;	Hu: lám, ám-ul
*mane > mu =say, tell;	Hu: mon-d =tell
*taŋe > dug =body member, member;	Hu: tag=member
*raŋke =chew > rig ᵛ=graze;	Hu: rág=chew

If a double consonant follows then it becomes a or u

Lead Ä

The lead Ä is often deleted, when followed by an unvoiced stop or liquid. When followed by a nasal it becomes a backvowel “a” or “u” as with many other examples. Otherwise it becomes an “e” or “i”. CVC (Consonant Vowel Consonant) words are also prone to metathesis after the deletion of the front vowel, however Sumerian phonetic symbols are often consonant vowels pairs, that can be reversed, thus causing the transition to be reversed in order.

ä + liquid or stop

*äle(ma) > il =lift, up	Hu: em-el=lift, fel=up <metathesis>
*äne (sound,voice) > _na-r =singer	Hu: én-ek=song, hang=sound
*älü (tree sap) > _lal=honey (just think of maple syrup)	
*äle (groin) > hal =groin	Hu: öl=groin
*äpper-ke (strawberry) > _buru=berry	Hu: eper=strawberry
*äktä > _du-du=beating, hitting (kt>d)	Hu: üt =hit (kt>t)
*äste > izi =fire, fiery	Hu: izó=glowing hot, smoulder
*äŋe > uk-uk =fire ?	Hu: ég =burn

Internal -Ä

The internal Ä becomes an “e” when followed by a palatal sibilant +Vowel. It becomes a “u” following a deletable lead “w”, as is the case with other vowels. It usually becomes “e” or “i”, when preceded by “ń” of the proto-word . Otherwise it normally became “a” or “u”. When followed by an “r” it can change to a front vowel, depending on the “r” type, which unfortunately weren’t indicated.

*päše=unravel, stretch out > peš =expand;	Hu: fesz- =stretch out, unravel
*ńäkke > nig-in =enclosure (-in=locative sfx);	Hu: nyék=enclose safe area (for animals) ny=ń
*ńäle-ma =tongue> ŋèle, ŋili=pharynx;	Hu: nyelv=tongue; nyel=swallow
*ńäre > nir=grab, obtain;	Hu: nyer=win
*käppa > gaba =chest,breast;	Hu: keb-el =chest, breast (also Turkic)
*kälä > gal-am=arise, climb up;	Hu: kel =arise, cross over, ford
*käte > a-kuš=forearm; kis-ib=hand; {*t>s}	Hu: kéz =hand
*kärte =metal, sword > giri =sword;	Hu: kard =sword
*päre =small piece>bir =rip to pieces;	Hu: pir-iny=tiny
*čäre > sir=feverish;	
*läje =weak, immature > lal=light;	Hu: le-ány, jány =young girl
*lämpi > _amb-ar=swamp (ar=flooded);	Hu: láp=swamp [unusual case to have mb]
*nämi =don’t, no >nam, na-me, nu-;	Hu: nem, ne=no, don’t
*pälä = half > bala=fraction, bara₄=divide;	Hu: fél=half, one of a pair; féle=a form of, likeness
*päŋe > pag =cage, confine, hold;	Hu: fog=hold, fog-oly=prisoner, fog-da=jail {*p>f}
*täwte > tab ₂=to burn;	Hu: tüz=fire, tap-lo=tinder
*nä-ke > nu =look;	Hu: néz=look

Sumerian deletes endings with k or g and often “ŋ”, unless followed by a morpheme, however mt, and nt don’t count as they probably changed to a “d” beforehand.

Lead E

When the lead “e” is followed by a nasal, it becomes a backvowel “a” or “u”. This rarely includes the *nt, which changed earlier to “th”, then later to a “d”.

*ema > ama, uma =mother, older woman; Hu: anya=mother m>n, anyó=older woman
 *ema- > uma-mu =mother’s breast; Hu: em-lö, mell=breast;

When it is followed by a liquid +vowel it changes to “e” or “i”. When followed by “č” it becomes “u”.

*elä(t) > ti-la (metathesis)=life; Hu: él-et=life
 *ele > ilu. _e =damp;
 *eče > _šu-š =night; Hu: eš-te=evening
 *ečke > _šug-id =oath; (vowel insertion) Hu: eškü =oath
 Otherwise *eće = _šeš =brethren; Hu: öc =younger brother,
 *eće-(k) > _šeŋ =rain; Hu: ešö, ešik=rain, rains

The initial front vowel preceded by a “w” becomes a backvowel “u” or “a” and deletes the “w”.

*wiða or *weta > _ùs =lead {-t->s/z} Hu: vez-et {-t->z}=lead
 *were > ùri =blood; Hu: vér =blood
 *weća=total > _aš=one Hu: _ösze=altogether, ösz-eg=total, *ć>gy egy=1
 *wel-ke > ul_4,6 = light, shine Hu: vil-ág=light, world
 An exception is *wete > _eš=water Hu: viz=water, _isz=drink

Internal E

Whether preceded or followed by a nasal, the “e” becomes “u” or “a”, unless a liquid sound follows the “e”. Similarly when followed by just a liquid sound, it also becomes “a” or “u”.

E+Nasal > a or u

*leme > lum =broth, juice, syrup; Hu: lev-, lé {m~v} =juice, syrup; leves=soup
 *meŋe > men > ma_ =leave, go; Hu: me-ni=to go
 *penŋe > buŋ=fart,blow; {*p>b} Hu: fŋg {*p>f}=fart
 *tempe > dab_{2,4,5}=rip off, take; Hu: tép=rip off, pick off
 *cene- > sun, suŋ=decayed, old; Hu: csün-ik (ik=old verbal marker)
 *čeŋ-kä > saŋ=break off;
 *čeme > sum-un=spoiled, sour; Hu: sava-nyu {*m~v}=sour
 *šeŋe > sag_{2,3}=weave; Hu: szöv-, sző. { *ŋ >v,g or j}=weave

Nasal + E + Liquid sound > e, i

*mel’e > meli =deep; Hu: mély=deep
 *ñele > {*ñ>ŋ>g} gil-ak=arrow; Hu: nyíl=arrow ; nyél = shaft, tool handle

E+ Liquid > a or u

*keje > kul= of mating age; Hu: kěj =lust, desire
 *kele=need > gala=to value; Hu: kel-ék, kel =needed/desired object, need
 *čelke > zal-ag=shine, star; (z=ts) Hu: csillog =shine/twinkle; csillag=star. (cs=ch)
 *pejće > pašu=ax; Hu: fejsze=small ax

*pel-ke > bul-uh=to fear; Hu: fél- =fear

When a bilabial follows the “e” it becomes “a” or “u”;

*šéppä > suba =pretty; Hu: szép=pretty
*lewe=shoot, toss > lah, lá_; Hu: lök=shove > löv-, lő=shoot
*tewe= make,work > du_ ; Hu: dol-g -(oz)=works
*ćeppe >šab=hips, middle; Hu: csipő “chipő”=hips; csip =pinch

E also often alternates with an I.

*enten? > edin=plate, jug ; Hu: edény =plate, dish
*keńer =groats> ŋjń-ara=groats; { *ń> ŋ } Hu: kenyér=bread (originally groats)
*ńekke > ŋjg-in=enclosure (-in =locative) Hu: nyék=safe enclosure (for animals)
*pesä > peš=nest, womb; Hu: fész-ek=nest, womb
*šette > sed=distant, far; Hu: szét =apart, szerte =all over
*leš > liš=meal,morsel ; Hu: liszt=flour, meal

Lead I

The lead “i” followed by a palatized sibilant is deleted. When followed by a nasal it becomes “u” or “a”; Otherwise it remains “i”.

*iä > _su-n =elder, ancestor, father (n=Uralic/Sumerian personal marker); Hu: őś =ancestor
*iä > _še-š=brethren; Hu: öc =younger brother
*iä > _zi =soul, spirit, breath; Hu: iz =spirit of a person (archaic)
*ike > e_ =sweat,flood { *kV>ø };
*iče-ppē > isi =mud, dirt; -pp is often deleted since pp>b is interpreted as an inanimate pronoun
Hu: iszap =silt
*ir > ir₁₀ =move about (fast) Hu: ir-am=speed, jár “yar”=move about

Internal I

Internal “i” changes to “a” or “u” when followed by a Nasal + Vowel as is common with other vowels, except in a few exceptions that aren’t understood yet.

*kime > kun=outer, (m~n) Hu: kin-t, kin =outside
*kima > kam=desire; Hu: kiv-án { m~v }
*kińä- > gaŋ;
*mińa > mun-uš=woman; { ń> ŋ>n } Hu: menyecs-ke=young wife, young adult woman
*nime > nam=name; Hu: név { m~v }
*pime > pa, bil, _u=grass, herbe; Hu: füv-, fű { *p>f }
*tin > za-, zu- =you; Hu: te=you, -sz=you (verbal intransitive pronominal suffix)
*wińá > _ugu-la=watch, beware, boss, captain Hu: ügyelő=one who is an overseer of things & people.
*wiŋe > _ug=end, death; Hu: vég=end, ki-vég-ez=to execute
*šiję > šag₄=center,essence, heart Hu: sik=heart, center, essence (old word that is no longer used)
*wińša=green, gangrene > _ùš₁₁=poison; Hu: üsz-k-ös=gangreen

Otherwise it remains an “e” or “i”, since “e” and “i” alternate in dialects.

*kile > a-kil= shout ; Hu: kiál-t=shout
*kinte=fog, mist > gidi =eclipsed; Hu: köd=fog, mist
*kil’a > ki =place; Hu: hely (#k/h/_B)
*lewlē=air, spirit > lil; Hu: lég=atmosphere, lél-eg=breathe, lelķ=soul
*mi > me =we; Hu: mi=we

*niðe > ŋeš (ð>t>š) =shaft, handle of a tool or weapon; Hu: nyél=same (*ð>l)
 *pile > bil =burn; Hu: fől, füt =cooks, heats (*p> f)
 *pilwe=cloud > u-billa= plume; Hu: fel-eg=cloud, plume
 *piša > peš=cook, bake; Hu: főz =cooks
 *tire > dir-ga=cult center; ObUgrian tir=cult center > Hu: tor=wake for the dead, tér=plaza

O

Since the “o” was not recorded by the later Akkadian scribes, it appears to have simply been converted to “u” or “a”. Perhaps words that have both “a” or “u” forms, actually represent “o” sounds, which is intermediate between these sounds. The bulk of the words with “o” in F.U. however become “u” in Sumerian, with the exceptions that may be dialectical or due to differences in the way the “o” was perceived. It may be that “o” wasn’t a distinct sound in Sumerian, just as in Etruscan. In old Hungarian most often the proto o was written as u in the Middle Ages.

O>A

*kola > hal-am; { *k>g>h }
 *kolja > galla, gul =evil, devil, Hu: golyho=evil ghost; Ugrian kul=devil
 *kolle > gal₄, hal=genitalia, Hu: here (l~r) =testicle
 *kome =land next to rivers > a-gam =swamp; Hu: han-t (m>n)

O>U is the most common change

*uroš =lead male, strong, etc > uru(n)₆=lead male; Hu: úr=lord, erö=strenght, oriás=giant
 *ćoppe > šub=drip, fall; Hu: csöp-ög =dripping, csöp=a drip (cs=ch=ć)
 *ćore > šur=brew alcohol like beer; Hu: sör=beer
 *šorwa > a-šur, si_=horn ; Hu: szaru, szarv=horn
 *šoja > su₁₃=arm length; Hu: hoszu (š>h)=long
 *jor.ke > gur₄=spin, roll, travel; { *j>ŋ>g } Hu: gur-ul =roll, jár=travel (-d and -l are verbative
 formatives)
 *toj.ke- ?> dun=bring low Hu: dön-t=to topple, to cause to lean down;
 *tompe > dub, du₆=hill, mound { *mp>b } Hu: domb=hill
 *wojće > _us=duck Hu: vöcs-ök=a type of wild duck

Internal U

In many cases the proto “u” changes to “a”. There are few categories that are immune to this a~u alteration. One is where “u” is followed by “r” it remains “u”. U followed by Nasal +consonant remains “u”. U following a lead Palatal or Sibilant becomes “a”. U preceded by the lead “ñ” (written here as ñ), changes to “i”, as is so common with other vowels. U becomes “a” when followed by a Liquid plus a consonant, otherwise it remains “u” or “a”.

uVr

*kurje?> gur =ox Hu: ökör=ox (also Chuvash Turk weker)
 *kurwe > hur =incise, etch Hu: karc-ol, hor-ul=scratch, engrave, scrape
 *kurña > kur₅=to groove, furrow Hu: horny-ol
 *pura > būru=revolve; Hu: for-og=revolve
 *pure= boil, hot > buru₁₄ = hot season? Hu: forró=hot
 *mura > *mul > mú_ =mill, crush; Hu: mar, maró =mill, etch
 *tuŋke > dug=container Hu: tok, dug=case, container, push into, hide
 *muŋk-er > mug₂ =seed, semen, body (in heat) Hu: mag =seed, semen, self
 *puŋke > bun=twisted, bent Hu: bony-ol- =to twist and wrapp
 *xonta > gud₂ = warrior Hu: had=army, kato-na=warrior { *kB>h; *nt>d }

*kuńće > kug, ku_ = “star, shine”	Hu: huyg =star or constellation (archaic use)
*nume > num-un =procreate, seed	Hu: nem-z=procreate
*muna > nu-mun =egg;	Hu: mony (ny=ń)=egg (testicle in some F.U. lang)
*ćukka > sah-ab =to lock (ab=it)	Hu: csuk “chuk” =close, lock
*ćukke-le >šag;=showing affection	Hu: csók “chók”=a kiss, csókol=kisses
*ćure > šar =herd, multitude > multiply	Hu: csorda “chor-da”=herd, szor(z)=multiply
*šele > sal=wide;	Hu: szél-es =wide, szél=width, edge
*šurwe > sar ~ šur=to stabb, pierce, insert;	Hu: szúr=stab, sting, prick; szúrony=bayonet
*sula > zal =melt, dissolve;	Hu: _olv-ad=melt (#s>ø)
*šuwe =mouth, word> sa_4=call, voice;	Hu: szól=calls, szó=word {sz=s }
*ćuppe > u-šub =naked>bare;	Hu: csup-asz “chup-as” =naked, barren
*ńume > nim ~num=high;	ObUgrian num-=high
*ńula=lick > ńili=throat; { *ń>ŋ }	Hu: nyal=lick, nyelv=tongue;
*nume > *ńume > nim?=seed,inseminate;	Hu: nem-z=procreate

4.2 The Consonants

The consonants were also minimized just as the vowel system was minimized and neither was it possible to reproduce completely by the later Akkadian and Babilonian phonetics. There are many signs based on Sumerian loanwords into Akkadian, that indicate that the old forms of Sumerian consonants were different than the late written forms. The studies of Gelb, 1961 emphasized the evolution from before Old Babylonian to Old Babylonian and later, which showed that early Sumerian did not have voiced stops (b,d,g), but over time it had developed either aspirated stops or voiced stops, which were indicated by b, d, g in Akkadian texts./Th.pg43

The Uralic predecessor to the Finno-Ugrian consonant system was rich in palatized consonants, but only one series of stops, the un-aspirated and unvoiced p, t, k was used and b, d, g and the aspirated b^h, d^h, g^h (usually represented as β,δ,γ) were not.² However the later Finno-Ugrian did have aspirated stops internal to the word and are indicated in the literature. Edzard /p21/ has summarized the researches of Gelb on the Sumerian consonants into the following types:

² / Wikipedia, “The Proto-Uralic language”, 2008

Sumerian Consonants

Type	Aspirated	Unvoiced	Voiced	Nasal	Uncertain
Labial	p'	p	b	m	
Dental	t'	t	l	ɾ	ɾr
Velar	k'	k	ɣ	ɣ=ŋ	
Fricatives					
Palatal	ç	ç?			
Dental	ç	ç			
Velar		ch (usually)			
Glottal		h (regular h, ?Dietz,			
Liquids					
Unmarked ?	*j> ŋ o rø	*w >b or ø	r	ʷ	*ñ> ŋ

The function of the accented stops is not really known and was left undefined by Gelb. They aren't actually indicated in any of the Sumerian records and were only inferred from phonetic analysis and comparison of the language with Akkadian.

Proto Uralic Consonants

	Bilabial	Dental	Palatalized	Postalveolar	Velar
Stops & Fricatives			/tʃ/	/tʃʰ/	
Nasals	n		/nʲ/		
Sibilants			/s/	/ʃ/	
Pirants		/ð/	/ðʲ/		
Laterals			/lʲ/		
Trill					
	v = b ^w		/j/		^w labiovelar

Symbols which are the same in UPA and IPA phonetic characters were not duplicated. I propose k^w and b^w forms which are likely because of the many examples of dual forms of the same word in different FU languages, where one language uses w and the other b or k. Similarly there are words where one group has w > v while another has w > b sound changes, like Sumerian.

The lack of voiced stops in Old Sumerian is also shared by proto Finno-Ugrian/Rédei/, Etruscan and several ancient dead languages, like Etruscan. Those voiced stops that exist in F.U. languages today are mainly found in loan words, except in Hungarian, which has systematically changed many of the unvoiced stops to voiced (*p>b/f, *t>t/d, *kB>g>h).³ In Sumerian there are many examples of words,

³ / This occurred in a progression from unvoiced > aspirated > voiced. Early Hungarian –Khuni word lists (500AD) from the Caucasus Mountain area, written in Armenian letters in the “Isfahan Codex”, had only a much smaller set of these voiced consonants in a local Hungarian dialect, which showed an early transitional phase from *p, *t, *k to b, d, g.

which are sometimes written with a “t” while at other times the same word is written with a “d”, showing a transition and an uncertainty or insensitivity toward voiced stops. My belief is that the “d” actually represented “th” in the Akkadian representation. For example:

tah~dah=to add to, give to
 ut~ud=sun, time;
 utug~udug=pitfall;
 utul~udul=herdsman ...

***B^w>B~Ø**

The proto “w” used in FinnoUgrian linguistics actually represented a soft “bw” sound. The Sumerian “b” was probably heard as a “bh or bw” and recorded as a “b” by the Akkadians. In Sumerian words, where the pFU “*w”, which represents “bw” is followed by “a” or “ä” and sometimes “o” the Sumerian version changes *w to a b, otherwise it deletes it. This is the same in various FU languages which change *w to “v” or “b” or delete it using slightly different rules of change. As in Sumerian the w in Hungarian may affect the following vowel if its a deletable, but otherwise it changes to v.

*wole >ba_ =was ; (w=bw)	Hu: vala, van=is, vol-t=was;
*wal.ka >bal=tear down;	
*wamta=wilderness>bad ₄ =inhabitable land,	Hu: vad-on=wilderness, forrest
*wänte=defend, guard>a-bad =shelter;	Hu: véd =defend
*waje > ba-l=cut, ba_ =cutting tool;	Hu: vág, vág =cut, hew; (balta=ax /Turkic)
*ware > bar=daybreak;	Hu: pir-kan=daybreak
*wälke > bil =light, white,	Hu: vil-ág=light; vil-og=shine on and off
*wetä =guide,lead > buz-ur=high,powerful/D61	Hu:vez-ér=leader, commander
*wora- or worka =to stich, coble >buru =punch holes	Hu: varga=cobbler, var=to stitch, sew

--others without reconstructed forms --

ban=bow	Hu: vonó=bow of an instrument (von=to pull, drag)
bal(ag)=to change, cross over	Hu: vál-(t)=change,exchange; vál=separate
bar =shoulder (r~l)	Hu: váll=shoulder
buraaba /DS34 =sparrow	Hu: veréb, berieb/Székely dialect=sparrow

When the lead “w” is deleted, it usually effects the following vowel, making it “u” or “a”, which indicates a softening of the pronunciation of w before being totally lost.

*wojčɛ=type of wild duck > uš~uz	Hu: vöcs-ök=wild duck
*wače =wise , aware > _usu>_zu	Hu: _ész, _esz-es=mind, brainy;
*wä'p'e ₂ = light > _ul _{4,5}	Hu: vil-ág=light
*were =blood > _ùri; (also as bur=blood/D69,141)	Hu: vér=blood, vörös=crimson
*weća=all, entire > _aš=one	Hu: _ösz=entire, egy=one { *ć>gy }
*wiņe =end, death > _ug _{5,7} =die (plural)	Hu: vég=end, végez=put an end to
*weće =danger, peril > _us=death (singular)	Hu: vesz-ély =peril, veszt= loose, vész=loss
*wura=wait , guard > _ùru	Hu: vár=wait, _őr=guard;

Internal W

In a consonant cluster with w, the w is usually dropped in Sumerian.

*kwore & *wore > kur =mountain	Hu: _or-m =mountain peak
*korwe > hur =incise, scratch	Hu: hor-ul =scrape
*kašwa =gain, grow, increase > kú=feed,benefit	Hu: híz,hasz-on =faten, benefit
*arwa=consider,value > ára=praise	Hu: ára-d-oz=praise about a person
*kal'we =thickened skin, scabb> kul =thick, heavy	Hu: hály-og =thickening of the cornea
*lewðä = discover , find > lal=to deduce	Hu: lel =discover, find
*pilwe=cloud,plume,mist > ubilla=soot (from smoke)	Hu: felhő=cloud,plume
*talwa=winter > ten=cold, winter (l~n)	Hu: tél=winter
*täwte =fire [Ug] >tab ~dib = fever, burn, sting	Hu: tűz=fire, to pierce, prick
*ćojwa=stomack,guts, intestines, innards > šag ₄	Hu: szik (archaic term)
*šurwa = stabb , pierce > sir ₅ =to be pointed; šar_=insert	Hu: szúr=pierce, stabb;

Intervocalic w may become b or eventually may be deleted in Sumerian

*kiwe =stone > ki-m=stone type, gin=precious stone, ku=metal ore; Hu: köv-,kő=stone;	
*owe=opening, door, window > ab =window	Hu: ab-lak=window (lak/luk=hole/opening)
*šuwe = mouth ₂ , *šawe= word > sa_ =call by name	Hu: szó,szól=word, call; száj=mouth

No protoforms

? > gaba =bundle of harvested grain and stems	Hu: kéve
? > kubbir =fat /DS147	Hu: kövér=fat ADJ only (person or animal)
?>gubara =waste land/Del65,	Hu: kopár=barren land
?>gubbuhu=bald/Jes10	Hu: kop-asz=bald;

k, g, ŋ at the end of the word is often deleted

The deletion of these consonants occurs normally at the end of the word, but also occurs very rarely at the start due to the softening of k>g>h leading to total deletion. That however is rare and is a problem without a good explanation. A similar thing occurs in Hungarian where the intervocalic k becomes v and at the end of the word it is deleted, when not followed by a morpheme along with the lengthening of the preceding vowel. The k ending on FinnUgor words was normally an indicator of a verb, however not all such verbs needed to be identified so today most of that was lost in modern Hungarian, except in a few 3rd person “-ik” verbs.

*jal-ka > ŋiri {l~r, j>ŋ/g} =legg	Ostjak:kiri=legg, Hu: jár =walk, move about (r~l)
*jor-ke > guru ₄ =revolve, roll (j>ŋ>g)	Hu: gur-ul=rolls
*kel-ke > kala, kal-ag=valuable	Hu: kelö, kel-me=valued, needed
*kis-ke > kuš-um=scor n, hurt	Hu: kis-ál=to anger; kus=back off, stand down!, sit!
*küt-ke > kad=tie	Hu: köt=tie, knit
*lak-ka > lag x =abode	Hu: lak-ás=apartment, abode
*lücke =push,toss> lah _{4,5} =fling	Hu: löv=shoot, toss; lök=shove, propel. (-k>v)
*merk-ke (hold back) >mar (enclose)	Hu: mar-ad=stay
*mirk-ke > murgu=rage, mer ₂ =anger	Hu: mérg-es=angry; mér-eg=poison
*mäl-ke (breast) > mur (lungs) {r~l}	Hu: mell =breast;
*ñak-ka (animal hide) > nag=material/thing	Hu: anyag=material/fabric, material thing
*pijke/pojka=boy > pil ₆ =male	Hu: fiú, fi =boy, son; (*p>f) fér-fi=man (male person)
*pol-ke =circular > bala=revolve	Hu: pálya =circuit, circular track, “circus”, athletic field

*rakka > u-ru₇ =relations
There are many more such examples.

Hu: rok-on=relations, relative;

The dental spirant δ

The FU dental spirant becomes a d or most likely it became an aspirated dh/th in early Sumerian. In Ugric languages it sometimes becomes an l, but in some it remains a th, but in Hungarian it always changes to an l.

*eðe > -da =committative (with)

Hu: -el, -vel =committative (with) ObUgor: -t or -l.

*koðe/*kol'e > kid_{2,7}=take out
arise

Hu: kel =to get out of a river, to wade out, to cross over,

*kuða > húd =morning

Hu: hol-nap=tomorrow morning;

*oða (sleep)> ùdi =dream

Hu: al-ud, al-sz=sleeps; (d & sz are formatives)

*paðe (wall,dam)> bad₃=wall

Hu: fall =wall; {*p>f}

The leading *J becomes η then also g

The Akkadian transcription of Sumerian words didn't use any symbol for "j" which in English is represented with a "y", but it is generally believed that Sumerian probably used them in the spoken language, since these were systematically replaced later with similar palatal type of phonemes, such as *j> η >> g, *ñ >η or n. Some words also duplicated the vowel, which indicated a "y" sound.

*? > gag-ig=pain;

Hu: jaj=ouch

*jo-ke=river >gu₁=riverbank;

Hu: -jó =river suffix, fojó=a major river "fö-jó"

*jor-ke=revolve,travel>gur, gur₄;

Hu: jár=travel about, gur-ul=roll

*jore > gur_{10,14} =shaver,cutter,

Hu: gyalu (r>l) =plane, < Ugric: gir

*joje > ηan~ge =come & go;

Hu: jön, jöv =come

*juye > ga ~na =drink ;

Hu: iv- > i-sz =drink

*jal-ka > ηiri=feet, legg (r~l)

Hu: gyal-og=on foot

Some instances of the lead "j" are also deleted, especially when followed by palatal vowels (e, i). This is common in many languages also, especially in Etruscan. Curiously FU proto language has very few such words that can be used as a verification and illustration.

*jela > _ila~ili =light;

Internal *-J >L, η or Ø

Intervocalic -j normally changes to "l" or "ø" especially those preceded by front vowels. Internal J changes to "η" or "l", especially those preceded by backvowels. They are at times deleted at the end of a word unless they aren't the only consonant in the root word.

J > L

*peje=heat,cook > bil	Hu: fól =cooking, főz=cooks
*keje =mating >kul=sexually mature	Hu: kéj=lust
*kaja=toss > _ulu-ra { *k>g>h>?ø }	Hu: haj-it =toss
*kaje > gil =bent	Hu: hajl- =bend
*kaja > gala =dolt, incompetent	Hu: hüje =imbecile, stupid
*pij-ke=boy, son, male > pil =male;	Hu: fiú=boy, fi=son of, fér-fi=male (r~l)

J>ŋ or g

*aja =drive animals > _já=to go;	Hu: haj-t=drive (hajdú=cowboy,drover)
*üje or eje=night > _je ₆ =dark, night;	Hu: éj =night
*čaje =press > saga ₁₁ , sa-ga, sig ₁₁ =press ;	Hu: saj-t =cheese, press
*čojwa =gut,intestine > šag ₄ =intestines, gut	Hu: sik (archaic)

J>ø (j =y in English)

*kuje=fat > he ₂ =abundance, _ia, _u_=fat;	Hu: háj=blubber
*kuja =resting place > ku_=lie down, base;	Hu: hál = lie down
*koje =male,husband > gu _{2,4} =warrior;	Hu: hies=young man,groom; hös=hero
*naje =light, fire, sun > nu ₁₁ =fire, light;	Hu: nap=sun; also Japanese nip- > nih-
*woje=fat, butter > _u_ ~ ia	Hu: vaj=butter; Vogul ia
*soja=arm length > su ₁₃ ;	Hu: _öl=fathom, armlength (#s >ø)

The “j” after a consonant is deleted.

*kađja =cover, blanket, tarp, clothes > gada;	Hu: gatyá =linnen baggy pants
(The word found in several FU languages is not a loan as has been claimed, just because its found in 2 slavic languages, which were once inside old Hungary!)	
*kolja=devil > galla;	Hu: golyho
*orje=slave >ur-du ₂ , ar-ad;	Fin: orje =slave
*pelja=ear (Akkad pil) > Su: bur [l~r], pi(l);	Hu: füll =ear
*kurje? > gur=oxen	Hu: ökör, Chuvash türk weker

Internal L

The “l” in Sumerian is often deleted or absorbed by adjacent consonants that lead it and is the most stable when it is the lead consonant of the word. Some of these deletions explain the missing “l” at the end of some protowords. Very rarely the “l” is deleted even at the start of the word.

*ala =down, lessen > _lá=lessen	Hu: le=down, al=under, el=away
*al-te=protect from harm > al_	Hu: ál-d =bless; olt- =inoculation, protection
*alu >la.l=false	Hu: ál=false
*alwe=far away, other side > ulli, ul;	Hu: el=away
*ele-(ma)=lift (ma=verbal formative)> íl	Hu: em-el=lift < metathesis >
*ele=sharp edge> al-kin=sharpened-stone;	Hu: él=sharp edge of a blade
*kajle > gil-im=bend	Hu: hajl-=bend
*kuwla > (h)ell-ag=bladder { *k>h>ø };	Hu: ?holyag
*kille > a-kil =shout	Hu: kiál-t=shout;
*male=warm >mèl=hot;	Hu: mel-eg=warm
*kolle > gal ₄ =genitalia;	Hu: golyó =marble, balls?
*kele>gala=speech;	Fi: kieli=speech; Hu: költö=poet;
*kolja>galla=demon;	Hu: golyho=angry spirit/ghost
*leil or lewle>lil=air,wind,spirit,infection;	Hu: lé-g=atmosphere, lél-eg=breath, lél-ek=soul
*tulle > dalla=fire, shine;	Hu: gyul=ignite; dél=noon time

LM or LN > M

*ilma > imi =air, wind	Hu: leve-gö { *m~v } =air
*kulme > a'gia-um=garment;	Hu: holmi =collection of clothes
*ćolmo =knot, clump, bulb > sům= onion, garlic;	Hu: csomo "chomo"=knot, bulb

LK > L

*jäl.ke =sign,mark,?decorate> gal-am=artistic	Hu: jel=sign, signal
*kal.ke > hal =run, to stream;	Hu: hal-ad =to proceed toward, advance
*lol-ke>lill-an= <u>limb</u> , stalk;	Hu: lom-b= leafy branch

{Long Back vowel+l#>ø}

*küle > kuŋ>ku_ =lie down;	Hu: háló =bed-(room), hál= rest, usually lying down
*kūla > ku-a & ha_ =fish; (ku-a is perhaps kuya)	Hu: hal =fish
*küle>a-ka_ =hear;	Hu: hall-=hear

L~N

In a small number of cases the L becomes an N. This occurs occasionally in Hungarian, while in certain F.U. languages it occurs consistently.

an=high ~ ila =to be high, to lift;	Hu: em-el=lift
bun ₂ ~ bul ₄ =to blow	Hu: fuj=blow, fing=fart
Ka-na-ág ~ Kalama =Sumeria;	Hu: hon=homeland
nu- ~ la = negative modal prefix;	Hu: ne =don't, nem=no, -(in Some FU lang l is used)
ne ~ lu =person;	Hu: le-gény=lady, lá-ny=lass (lul in several FU lang)
dun=student ~ tal-tal=knowledge;	Hu: tan-ul-ó=student, tan-it-ó=teacher, táltos=wise man, shaman
tin ~ til =life, to live; al-ad=life force	Hu: él-et (metathesis due to order of formatives)

For the previously described reasons the following comparisons also make sense:

*nelja=4 > nin=40;	Hu: négy=four
*leme=syrup > lâl =honey;	Hu: leves, lé =soup,juice, syrup
? > dul=knock down,	Hu: dül~dön-t=lean, topple

L ~ R

The trailing "l" is sometimes converted to an "r". The cause of this change isn't known based on the phoneme combinations, but some words have both "r" and "l" forms without a consistent rule, which defines when this may occur. I suspect it indicates that there were two forms of "r", one of which was soft palatized "r" that could easily change to "l" and a hard or trilled "r" that couldn't.

*ala =down, under >ur /D203,7;	Hu: al- =under, lower part
*ala+? >ur/D401,10 =foundation;	Hu: al-ap =foundation (al=under part)
*ćel-ke =shine,twinkle > šér ~zil	Hu: csill-og=shine, twinkle
*šele > sur =boundary, limit	Hu: szél =the edge, rim
*jal-ka > gir =feet; (j>g) ; (-kV# or -gV# endings are normally deleted)	
*kole > gúr =die (k>g, r~l)	Hu: hal =die (*k>g>h)
*ke'će =millet,flour > kiraši =emmer wheat	Hu: köles=millet
*mälke =chest > mur =lung	Hu: mell =chest, breast
*kale-ma=grave mound > gur-um=mound	Hu: hal-om =mound

*ńońci > nir=stretch, reach, overcome	Hu: nyul- =stretch; nyer=win
*pal-khe > bar /D74,302 =town (khV>ø);	Hu: falú =town
*pelä =half,share > bar=half /G149	Hu: fél=half, share
*peljä > bur(u) [Akkad pil] =ear/D411,10;	Hu: fül =ear
*śoje > zura =noise (j>l>r)	Hu: zör, zaj =noise
*wol-ka > bar~bal=shoulder; {*w>b, l~ř}	Hu: vál =shoulder

---other possible ties

ur =enemy (r~l)	Hu: el-en- =against>elen-ség=enemy
ņar ₇ =worm (g~ņ, r~l)	Hu: gil-isz-ta =earth worm
ņar (g~ņ)=accumulate, store room	Hu: gyül =gather, congregare; gyűj-t=gather,collect
lag =piece, lump, gob, clod	Hu: rög =clump of soil, clod;
_ul =bud, flower (*wV>u)	Hu: vir-ág=flower (*w>v)

Other possible examples of the L ~ R alterations within Sumerian.

dilina ~ dúruna =baking oven;	Hu: delne=country oven
ásal~ásar =poplar tree;	Hu: szil-fa =elm tree
bala=fraction ~ bara=divide;	Hu: fél=1/2, fel-ez=share (#p>f)
*märe > meli=sink ~ mar=immerse;	Hu: mer-ül=immerse
*šarēi =flood > Su: ur ~ llu	Hu: ár=flood; lucs-ok=snow melt
*ri-ma ?Iran > Su: la =happy	Hu: ör-öm=gladness
? > zíl, sil _{5,6} =to like	Hu: szer-et=like

The lead P

In most cases the lead “p” becomes a “b”. When the lead “p” is followed by a front vowel plus a sibilant, it remains a “p”. When it is followed by a Vowel plus a Palatal Consonant or “ä” it also remains a “p”. However if the Palatal Consonant is a “j” and preceded by “ä” then it may become “p or b”.

P+Palatal Vowels + “j” > p

*pejće > pašu =ax;	Hu: fejsze=ax
*pij.ke =boy,male > pil ₆ =male;	Hu: fiú “fiyu”, fi=boy, male
*päje > bil or bar =bright, white;	Hu: feir >fehér, fejér =white; fény=light

P + Vowel+Sibilant > p

*päše > peš =expand, taut;	Hu: fesz =taut, stretched
*pesa > peš =womb;	Hu: fész-ek=nest, womb
*pišä > peš =burn, cook;	Hu: föz=cook

P+ Vowel + Palatal Consonant > p

*peće =to paint, decorate > peš ₅ =anoint,?smear	Hu: fes-t=paint
*pul’je > pa_ =canal;	Hu: pat-ak=brook;
*päje > piř-iņ=bright;	Hu: feir>fehér=white
*päše = peš =expand.	Hu: fesz-es, fesz-ül,

Otherwise P>B

*pime =herb,grass >bul-ug=sprout ; _u=herb,grass	Hu: füv-, fű=grass, herbe (Dravidian pul?)
*pera > a-bara= sweat, humidity;	Hu: pára=humidity,
*pel.ke > bul-uh=fright;	Hu: fél=fear

*penḡe > buḡ=fart, blow;	Hu: fing=fart
*pere =leather> baru-tum =leather (object), pelt	Hu: bör=leather
*pere =man,husband> u-bara =male patronage	Hu: fér-fi=husband, bar-át=friend;
*para > bar =rump, seat, back;	Hu: far=rear, buttock, rump
*pare =carve,cut up> bir _{6,7} =ripp to pieces;	Hu: far-ag=carve; für-ész =saw;
*paḡe > bad ₃ =wall, fortification;	Hu: fall =wall
*pente =roof,cover > (kur) bad ₃ =(mountain) top	Hu: fedö =cover, roof
*perkke=insect > bir ₄ , buru _{4,5} =locust;	Hu: férg =insect
*poḡe > bad=above,distant;	Hu: fel =upward
*pol.ke > bala =circular, roundish,curved;	Hu: boly-ong=walk around, pálya=circular track, Hu: bágy-=curved
*pore=dust, ash >bír=dry up; bar =earth,land /DS26-27	Hu: por=dust
*pukta =run > bu-l, bu ₆ =rush around;	Hu: fut=run
*pura =revolve, drill > bùru =bore;	Hu: fúr=drill, bore
*pona=pubic hair > pen-zer =female genitals;	Hu: fán=pubic hair, pina=fem.genitals.
--- unreconstructed forms –	
bar=companion/DS28	Hu: bar-át=friend; (also Akkadian)
bar /DS28 =rent	Hu: bér =rent;
budu =heavy club/DS22	Hu: bot=stick; (also in Turkic)

The intervocalic P

The intervocalic “*p” often becomes “b” or “m” in Sumerian, depending on the dialect. The m~b alteration corresponds to the FU m ~w alteration found in Finnish and Hungarian. Hungarian also changes the intervocalic “p” to “v”, unless the “p” is geminated (doubled).

*arape=relative >úrum~erib ₂ ;	Hu: ro-(kon)=relative, ara=bride
*lepe=leaf, cover> lam;	Hu: lev-él=leaf (-p>v), lepni=inundate
*čapa=sour >sum-un.	Hu: sav-=sour, acidic
*b ^w ole > ba ~me =forms of ‘is’;	Hu: vala~van =to be
mammi~mabi =frost	
marun~barun =shovel	

Velar Nasal ng =ḡ

The velar nasal “ḡ”, is like the “ng” in such words as “la-**ng**-uage” and is often written in Sumerian references as a “ḡ” or a “g” with a ~ on top, however Akkadian word lists simply wrote it as a “g”, since it often evolved later to be written as a “g” or “n”. To be more recognizable and closer to it’s apparent sound and to be compatible to the generally used conventions, I changed this “ḡ” to it’s equivalent “ḡ” in this document, because it’s easier to recognize and compare it to other language references. The Sumerian “ḡ” was also used to represent the old palatized “ń” as well as several other sounds like the palatal “y” written as “j” internationally and as a “y” in English. These sounds were uncommon in most Semitic languages so that they couldn’t be written phonetically. Occasionally a doubled vowel implied a “y” between them.

*ńele =swallow > ńili=throat;	Hu: nyel=swallow, nyelv=tongue
*ńare=grab, win > ńar~nir;	Hu: nyer=win
*ńuņe=rest>niņ-in ₂	Hu: nyug=relax, repose
*ńiņä=woman, wife > nin=lady	Hu: nej, nõ, né=woman,female; néni=elder lady,
*kuńa=repose, close the eye >huņ~hun;	Hu: huny =close eyes
*kiņ-är= joint > gaņ...	Hu: köny-ök=elbow; kanyar=a curve

K>G~H>ø

The Sumerian “h” was hard, like German or Scottish “ch” or the Ugrian “x” pronounced like an aspirated “k^h”. Hungarian h derives from k but by way of kh. In Sumerian it is often written as an “h” with a curve below it in Sumerian literature, which I haven’t bothered to try to duplicate because there aren’t any available fonts for it. The lead “k” in the protolanguage, followed by a front vowel or long vowel usually remains “k” or later a “g” in Sumerian, while it becomes “g” or “h”, when followed by a back vowel, similar to the sound changes in Ugrian languages, except that the Sumerian rules are more restrictive. The resulting lead “h” is also deleted sometimes when “k” is followed by “a+(l or j)”. When “k” is followed by a backvowel it becomes g or h. When followed by front vowels it is more likely to remain as a “k”, but there are a few exceptions, where it eventually also also changed to g.

K+Backvowel exceptions, perhaps due to archaisms.

*kare?kore >kur ₆ =food ration;	Hu: har-ap=a bite;
*kal’ke =hair > a-ka=fleece;	Hu: haj =hair (from Altaic?)
*kođe =to skin, to shell >kud, kid _{2,7}	Hu: héj =outer cover, shell, bark

K>G

*kappa > gaba=chest;	Hu: keb-el=breast
*kaja?kalje =absent minded,dumb> gala	Hu: hülye=stupid
*kaje > gil =bend, bow;	Hu: hajl=bend
*kale > gu, _alla =net;	Hu: háló=net
*kappe > gab-zi =grab, remove; gab-sa=buyer	Hu: kap=receive, take, grab
*kače=know, understand > gaš-šu = intelligent,	gaš-am=skilled. Hu: okoś=smart
*kore=dawn, time, early > gur, gar ₄ ,	Hu: kor-án=early; kor=age;
*kore =bent,curved >gúr;	Hu: gör-be =bent, crooked
*koće=long > guz, _eše;	Hu: hoszú=long
*kuma > gam=crooked;	Hu: gamo, kam-po =crook
*kunta ,*xont > gud ₂ =warrior { *nt>d}	Hu: had=army

K>G>H

*kuje=fat >he ₂ , _ia;	Hu: háj =flabb, blubber
*kul’ke =run, travel > hal;	Hu: hal-ad=advance
*kuńa=shut eye> huņ~hun;	Hu: huny=close eye
*kače =belly > has =lower abdomen;	Hu: haś=belly, abdomen
*kore > gur =anger;	Hu: har-ag=anger
*korwε=scrape, scratch > hur, har	Hu: hor-ul=scrape

K>G>H>Ø

*kuše=flesh> _uzu;	Hu: huś =flesh,meat
*kuje > he(y) ₂ ~ _ia =fat;	Hu: háj=body fat
*kaja=toss > _illu-ru=throwing stick;	Hu: haj-it =toss
*kaća > _iši =mountain peak;	Hu: hegy=peak, mountain (ch>gy in some cases)

K+front vowel

*keñir=groats > ḫiḫara=groats >> gar-ud=bread;	Hu: kenyér=bread
*keje =mating time > kul=sexually mature;	Hu: kěj=lust
*kel-ke=must,need >kala(g);	Hu: kelö=needed,useful
*kime > kun =outlet;	Hu: kin/kin-t=outside; kiv-, ki_=out {m~v},
*kere=bind, rope > kiri=rope;	
*kerä=around > kára;	Hu: kör, ker-=circle, around
*kere=stone fireplace > gir=stove; kur=burn	ObUgrian, Estonian, Lapp...
*kel'eće=millet >kiraši=emmer wheat; (l~r)	Hu: köles=millet
*kimä=want, desire >kam ₂ ;	Hu: kiv-án (m~v)=desire
*kića =small container >kasu=bowl;	Hu: köcs-ög =small liquid container pot
*kil'a=place,town > ki_;	Hu: hely =place,town
kate =hand > kiš-ib; {-t->s};	Hu: kéz=hand
*kütke=to tie > kad _{4,5} ;	Hu: köt =tie
*küšü [A]=a rodent > kiši _{5,10} =mouse;	Hu: güzü= mus spicilegus, a mouse type [Altaic]
*kele=speech >gala =singer;	Hu: költö=poet
*kinte=fog > gidi ₆ =darkened,eclipsed;	Hu: köd =fog
*karte =metal,knife >giri=dagger, knife;	Hu: kard=sword

S,Š

There are a lot of variations in the representation of sibilants and their sound changes “š, s, z”. More than what I can possibly explain. Their usage had probably changed in various periods of history and in different dialects of Sumerian as their notation was not used very consistently by the later scribes. Even in modern American English we hear “s~sh” variations from different people, who don’t follow the “standard” pronunciation. Sumerian writing did not use a single standard dialect, but used the words in accordance with their local dialect, so that there were multiple pronunciations for the same word at the same time, even though they were mutually understandable. Since the writing was usually symbolic, the root word was naturally understood by everyone. Sometimes they did write the word out phonetically. In certain situations the lead sibilant was deleted and the trailing sibilant was also usually dropped.

*č > z~š; *š > š>s; *ć > š >s;

The lead s is often deleted especially when followed by a Vowel plus a liquid sound like l or j or ḫ or certain “V+f” sounds. This is somewhat similar to a Hungarian, which had a much simpler sound rule, since all lead “*s” are deleted from all proto-words unconditionally, while the modern lead “s” was derived from other sibilants, like “sh” (ś) or “ch” (ć).

*š > ∅

*š.eḫe=true, right >_ge-n;	Hu: _ig-az=true,correct, _igen=yes
*š.ane=he,she >_en;	Hu: _ön =thee, as in the archaic “you”
*š.arē >_ur, _ri, _ra =flood	Hu: _ár=flood
*š.oḫke > sun?, _ùgu-n, _ugu ₄ =old person;	Hu: _agg =very old single person;
	Hu: ükk=great,great grand parent
exception: *sula =melt >?zal;	Hu: csul-ok=snow melt.

The lead *š >s

*šäre=rivulet>sur=flow ;	Hu: _ár-am =current, _ér=vein, small creek;
*šäre=arrive,spread >?šar =begin; šár=to multiply	Hu: szor=multiply; szül=birth;
*šänte?šonte=eincorn wheat >se_ =grain;	Hu: _ed=eincorn wheat; (*nt >d)

The lead *s>ø

*s.āṅ-ke=sky>_an_=sky,heaven,high; (ŋk>n)	Hu: _ég { *ŋk>g }
*s.ūle=embrace, fathom(as length) >_ul=length unit;	Hu: _öl=length unit
*s.alke > _al, _ili ₅ =stand;	Hu: _áll=stand
*s.oṅe > _ka =door;	Hu: _aj-tó=door, kapu= gate /Hu,Trk
*s.aše > _šá = dry out;	Hu: _asz-ik=dry out; szár-ad=dries;
*s.orē =hand width > _ra_ =measure;	Hu: _ar-asz=span of a hand
*s.ose =wet, soak > _uš ₁₁ =wet;	Hu: _áz=drenched

archaisms? or S followed by U.

*sula=melting ice > zal=melt, dissolve	
*suḏe > ?su=_finger;	Hu: _ügy=digit/finger
*suyē >essa+du=fin, flipper;	Hu: usz-ony=finns <s-u metathesis?>

Internal “s” normally softenes to “š”, but some remain “s” at the end of the word where it may be deleted.

*ś>š > s > z

*śakke >šuku =food portion, segment;	Hu: szak=segment, portion, break/ripp off
*śala =lightning>zal=light,bright	ObUgrian sal=lightning.
*śalke >sal ₃ =pole, fiber,sinew;	Hu: szál=fiber, beam
*śare- >šar-ag =dry;	Hu: szár-az=dry; szár-ad=drying;
*śar-ne =magic, incantation, rites > šur =sing, lament, zur =pray, sacrifice, etc.	Hu: szer=ceremony, rites, method
*śaṅ.ke =smell > zi_ =stench; ši-m=aromatic; (m~ŋ)	Hu: szag=smell , szim-at=scent
*śaṅe- =to spring up, jump, flee> zig;	Hu: szök=flee, spring up, jump up
*śele =border, wide >sal=wide;	Hu: szél=boundary, szél-es=wide
*śéppä =pretty, well done > subba _{2,3} , šub ₇ , zé-eb;	Hu: szép =pretty, beautiful, well made
*śette =bind, weave >šed _{3,4,5} =couple,join;	Hu: csat-=to couple, join together, clasp
*śette =move apart,separate > šed, sud =make remote,stretch, strew;	Hu: szét=apart
*śeṅe =plait, weave > sag _{2,3} =weave, beat;	Hu: szöv-, szó=weave { -ŋ>g,v,j }
*śeṅ-ke =peak,point > saṅ=point;	Hu: szeg=nail, peak-point, angle
*śiṅ-ke =light colored > sig ₇ =pale, yellowish	Hu: szőke=blond , szürke=grey
*śoje =noise > zur-a =noisy	Hu: zaj, zör=noise

internal *ś sounds.

*kiše =race, contest > kaš =fluent,speed, travel fast	Hu: küz-d =compete
*kiš.ke-ma = tear, harm, irritate > kuš-um=hurt,scorn,reject.	Hu: kiš-ál
*kuše =flesh, meat > _uzu =meat;	Hu: húš=flesh, meat
*kuše = young male > ŋiš =man; (k>g~ŋ)	Hu: hieš =young adult male; hös=hero
*leše = meal (cereal) > liš_ =morsel, crumb	Hu: lisz-t=flour

Some of the soft sibilants at the end of words are later also dropped such as.

*meše = cloth , clothes > mu ₄ =clothes	Hu: mez =clothing
*muš-ke or moš-ke =wash > mu-d-ru=laund-er-er	Hu: moš=wash, mos-ó=wash-er

SH, CH > š

It has been claimed that “š” represents a palatized “sh” sound, but it has also been noticed to be like a “ch” at times and therefore it may represent the derivation from both the “sh” and “ch” of the proto-word. This is also a common sound rule in Hungarian where “ch” can remain or change to “sh” then “s” and much later in history the “ch” can also become “gy”. In our notation “č” represents “ch”.

*čakä=drift ice > šeṇ=ice;	
*čappe=smash, strike > ša_5=cut, break;	Hu: csap (chap)=strike
*čare =excrement > šur-im~sur-un=excrement;	Hu: szar=excrement
*čatta =war > sad ;	Hu: csata=battle
*čađa =mating season, run >šed~sud=to couple;	Hu: szal-ad =running; csat-ol =clasp together, join
*čečä =uncle, father's brother >šeš =brethren, brother;	Hu: öcs=younger brother; Vogul: šäž =uncle;
*čoppe =drip >šub=fall;	Hu: csöp, csep=drip, csep-eg=dripping
*čore =flow , drible >šur~sur,	Hu: csur-og=light flow, dribble out
*čelke=sparkle, shimmer > sulug~zalag;...	Hu: csill-og=shine, csillag=star
*kaća > _iši=peak, mountain (#k>h>ø);	Hu: hegy=mountain {ć >cs, s, gy }
*aća=field,medow > aša5=field,plot;	Hu: aszó =field next to a brook
*eće=rain down, rain > _še-ṇ3,7;	Hu: ešő=rain, ešik = rains, falling down
*koćme >ki-šum-ak, šum=onion, garlic	Hu: hagyma=onion; fok + hagyma =garlic
*kaće > haš=break/cut off;	Hu: haš-it= to cut apart/off; hason-=similar,
*keleće =millet > kiraši=emer wheat; (l'~r')	Hu: köleš=millet
*koće > guz =long/length;	Hu: hosszú=long
*kaća >kuš =young man,servant;	Hu: hies=young man
*weća=entire>aš=one;	Hu: ösz-=total, egy=one;

Sumerologist Prof Badinyi in a chapter on “Revaluation of phonetics” also writes that: “the most complicated problem in Sumerian-Akkadian linguistic research is the question of sibilants. Angelo Lancelotti (54) called it: ‘the heavy cross of the Semitologists’. ... The sibilants were presented –until the present as the greatest deficiency of the Akkadian idiom. “ After this Badinyi introduces a few rules to mitigate some of the problems and illustrates this with equivalent words in Hungarian. He claims that the Babylonian S, with a dot below it, which is in common with Sumerian š represents a ch, (Hungarian cs). Then illustrates this with the following Akkadian examples of S that are marked with a dot below it in Akkadian/Babylonian rather than the usual S. The Hungarian ch at times also converts to an s which is written as “sz”.

ših =generate fire (by rubbing)	Hu: csih (ćih-) =to generate fire from a spark
šal (šaltu=strife,discord)	Hu: csal (ćal) =to cheat, chel=to trick someone, feigt,
šal =sparkle, glitter	Hu: csillog (ćilog) =sparkle, glitter
šik =spark of fire	Hu: szik-ra (sikra) =spark
šin, šenu=malevolent action	Hu: csin =incorrigible, unruly behaviour

A Few of my own additions to this tiny set of Akkadian examples.

šamû =thirst	Hu: szomj =thirst
šara-tu =press, squeeze, drain	Hu csür - csavar
šabu =troops	Hu: csap-at=troops
šaširu =grasshopper	Hu: szöcs-ke=grasshopper, sáska=locust;
širpetu =dish	Hu: cserép =dish, pottery, tile
šubatu =textile	Hu: szövet =textile, cloth

Z

The “z” is unlikely to be a voiced sibilant as we normally pronounce it, but another way of representing either a “č”=ch or the “č”=ts which may soften over time to an “s”. John Hayes also refers to this phenomenon in his book⁴.

- *čukke = hill, peak > zug=height, tall; Hu: śág (archaic) =hill
*čas-ku = falcon , eagle > Zu=mythical eagle; Hu: śas =eagle
*čappe =make a cut, notch or groove > zubu, zubi=sickle, cut off;šab_=chip out;
Hu:szab=cut out a pattern; szabja=saber
*čuppe =small container > u-šub =basket; Hu: csup-or =small pot container
*čaje =to press > saga₁₁, sa-ga, sig₁₁ =to press; {j>g} Hu: śaj-t =to press, cheese, the newspaper
press
*čeŋ-kä =head, peak, center > saŋ, sa_; Hu: szik (archaic) =same
*čaŋe- =to strike > sag_{2,3} =a blow, stroke Hu: śuj-t=strike down;

Internal č

This sound usually softened to sh or ch, represented by š or it can remain as z.

- *mieče =man, >> meš =prince, young man Hu: mać-ar > magy-ar=Hungarian royal clan
*eče =to set, settle,sunset > šu, šuš =to set, ũš-an=sunset,evening-time; Hu: eš-te=evening
*kače =able,know,understand > gašu =intelligent Hu: okoś=smart
*kače, keče =knife,cut >guz =cut Hu: kés (kэш)=knife; has-it=cut - slice
*woče =wise,aware,reason,observant > usu=skill, zu=know Hu: ész=mind, esz-eš=smart; -
ács=professional sfx.
*woče =loose, lost (a person), _us =death Hu: vész=death and destruction, vesz=loose
*čečä = uncle > šeš =brother, brethren Hu: öcs =younger brother; ObUgrian šäž

The word for man in Ugrian is often explained from the Vogul mańše. However it is not simply an Ugrian term and only Vogul has this distinct form. Finnish mies, Ostjak mos are all similar and so is the archaic form of Magyar “Mozh-er, Mech-er” and none of them has the “n” in it. None of these require this űš phoneme therefore. These are also similar to Sumerian meš=young man, prince as well as Dravidian mac.

R, R', DR

The “dr” sound is the least common and has the fewest examples. Sumerian also avoids such clustering of dissimilar consonants absorbing or deleting the softer adjacent consonants which makes this phoneme unlikely or misunderstood. The comparison of the very few examples given for the use of “dr” phoneme have not helped to identify what exactly “dr” might have sounded like/Th pg. 44/ or what it might have derived from, since the equivalent words in other F.U. languages simply use “d” or “tt” instead. Perhaps Dravidian should be checked, to see if there is an explanation, since it has a lot of Sumerian cognates. Besides “dr” there are also claims that there were two types of “r” sounds/Th pg 46/. My analysis of the sound rules also showed two types of sound rules, which effects the adjacent sounds, indicating some unknown differences between “r” or “ř”. Perhaps a hard thrilled and a soft sounding “r” which may change to “ř”. The r ~ ř alteration is common in Sumerian. The dr phoneme does have a few examples, one of which will be discussed at length in the section on mathematical terms.

4 /John Hayes, “A manual of Sumerian Grammar and Text”, Malibu 2000.

R~L

dúruna ~ dilina =baking oven

ásal ~ásar =poplar tree;

bala =fraction ~ bara=division;

meli ~ mar = deep~sink;

More examples are available, with only slightly different meaning.

Hu: delne =country oven

Hu: szil-fa?=elm-tree

Hu: fél =half

Hu: mély=deep, mer-ül =immerse

M, N

The nasals “m” or “n” may also alternate in the final positions of the stem of the word, /Th pg46/ as well as “m~ŋ” dialectical changes, but especially the “n~ŋ”. The nasals also effect the vowels around them.

M~N

hirin~hirim=nard grass?

girin~girim=piece of clay;

gin₇~gim=like, as;(equatative)

gazin-bu~gazim-bu=pole;

ezen~ezem=festival; (ezinu=cereal);

erin~erim=man, soldier;

edin~edim=vat, container;

kala-ma ~kala-ga = Sumeria;

it was kw)

Hu: göröngy =clump/clod of soil

Hu: -kén(t)= as

Hu: geszt=wood + bot=stick

Hu: szem=small seed

Hu: erő=power, force, strength

Hu: edény =dish

Hu: _álam=a state, nation (#k>blk? is unusual, perhaps

m~ŋ

diŋir~dimir=god;

ŋu₁₀~ma=my;

ŋar₇~mar=spade;

ŋèle~méli=throat;

suŋ-in~sum-un=old, decay;

Hu: tündér=ancient god spirits, moder fairy.

(also Altaic tengri, Etruskan tin)

Hu: -ém =my suffix; eny-ém=mine

Hu: mell=breast, i.e. area near the neck

Hu: sav- =sour, spoiling (ŋ>v)

n~ŋ

gin~giŋ=hatchet;

kun-in~kún-iŋ=bitumen;

pis-aŋ₂~pis-aŋ₂=basket;

saŋ-tag~san-tak=pillow, wedge;

Hu: szeg=wedge, nail, corner

The intervocalic M

The intervocalic M at times is deleted in a small number of cases as the small number of examples illustrate it as a dual form of the same word. We find a similar situation in Hungarian where occasionally the intervocalic m changes to a v. In Sumerian as written by the Akkadian scribes there wasn't a v or something that sounded like their version of it and for that reason the v was often deleted in the front of the word or changed to a b under certain rules. The same is true in Hungarian with very similar but not identical rules of change. The rules for the lead w are discussed elsewhere.

sumun > sun =old	
súmun > sún =wild cow	
sumur > sur =angry	Hu: szomorú=sad
nimin > nin ₅ =40	Hu: negyven =40 m~v?
umuš > uš ₄ =understanding	Hu: ész=mind, smartness
tumu > tu ₁₅ =wind	Fin: tuli?

The palatized N “Ñ”

The palatized “ñ” (ñ), is not recorded in Sumerian because Akkadian did not have a way to differentiate it from “n”, so that this consonant is sometimes written as “ñ” and sometimes as “n”. I have consistently used “ñ” instead of “g” which is usually found in reference books on Sumerian, because that is the normal way to signify it in comparative linguistics and since it often alternates or becomes an “n”, which looks similar to it.

ñ>η>n	
*kuña > huñ~hun =repose,rest	Hu: huny =shut the eye
*keñir =groats>ñiñ-ara =groats > gara=bread	Hu: kenyér=bread, but originating from groats.
*kiña > gañ =knee, joint;	Hu: köny-ök=elbow; kany-ar=curve in the road
*miña- > mun-us =woman; wife	Hu: menyé=wife, daughter in law; menyecs-ke=young
*ñele=swallow > ñili=throat;	Hu: nyel=swallow, nyíl-ás=opening;
*ñele=arrow, shaft > ñeš=wood, shaft;	Hu: nyíl =arrow
*ñire=shave > na-ñar= adze;	Hu: nyír =shave, cut down
*ñiñä > nin =lady, woman;	Hu: néni =lady; nő=woman
*ñume > nim=high, upper...;	Hu: nem-es=nobility
*ñäre > ñar =defeat;	Hu: nyer =win

ñV# >∅ at the end of the word

*meñe > ma_ =leave, depart;	Hu: me-(gy, sz, n) =goes
*kur-ña > kur ₅ =incise, notch;	Hu: hor-ul =scrape, etch; karc-ol=scratch;

ñc >g

*añce > ga-l~ha-l=groin>genitalia, crotch	Hu: ágy-ék =crotch area
*kuñce=star > kug=bright, sacred;	Hu: hügy 1=star, kegy=sacred.
*kuñce/kuñse > kãš=urin;	Hu: hügy 2 =urin
*wiñca/wiça- > ugu-la=watch over, overseer;	Hu: ügyelő=forman, someone who looks over and monitors
*šincä > šag ₄ , šã_ =innards;	Hu: sik (archaic)=innards; ?segg=buttocks

ńś >š

*końś(ε)ke >kuš=bark>skin;

Hu: háncs =husk

*kuńśe/kuńće > kiši=ant;

Hu: hangya =ant (ńś> gy)

*ŋ(k)> n ~ g which may also be deleted. In Hungarian *ŋ becomes j or g usually or rarely v.

*kāŋe > kun_{4,5}=ladder > stairs ;

Hu: hág=climb up, hágcso=ladder (archaic)

*müñä > mug₂=naked, sexual areas;

Hu: mög=behind, rear; mag=seed, semen;

*pāŋe > pag=hold,keep,cage;

Hu: fog=hold, fogda=jail, fogoly=prisoner

*taŋe > dűg =member, loins, knees;

Hu: tag =member

*toŋe > dih₂=barb,point; ti=arrow, du₇=stabb

Hu: tű=needle; tüz=to prick/stabb into; töv-is=thorn;

*čaŋe=beat > sag_{2,3} =chop, strike

Hu: civa-k-od=to be fighting, being antagonistic;

*šaŋe=jump,flee > súg ~ zìg =stand up, rise up;

Hu: szök =leap up, escape, flee

*šeŋe =plait,weave> sag_{2,3} = weave, strike.

Hu: szöv =weave

*š.eŋe > _gi-na=consent, _gen=just/true

Hu: igen=yes, ig-az=true

*w.iŋe > _ug=end,death (w>b/ø);

Hu: vész =danger, death

*s.oŋe=entrance > _ig=door.

Hu: aj-to=door, áj =cleft

*püŋe (bird type) > bag =bird type

Hu: fog-oly=partridge, prisoner;

*ńuŋe =rest,sleep > niŋ-in₂=rest, stop

Hu: nyug =rest, stop, lie down, calm

*ŋ+Consonant > g~h

*aŋke > gan-du=responsibilities

Hu: gond=worry, think about, take care of

*penŋe (fart) > buŋ to blow

Hu: fűng=fart;

*raŋke > rig =to eat, to graze

Hu: rág =to chew;

*tuŋki > dag-al =wide, widen

Hu: tág=wide; tág-ul=widens, is widening;

*čäŋ-ke =break off > sag_{2,3} =cut down;

Hu: szak-it=to ripp/break off;

*čüŋkä = hill > suk-un=height;

Hu: ság =hill (archaic, used in old Hungarian)

*šínke=light color > sig₇=pale

Hu: szöke =blonde;

Interdental ǝ >d

There are indications that there was an inter-dental “ǝ” somewhat like dj according to John Hayes ⁵. This is also found in Uralic. This is indicated by the fact that because the later Semitic scribes had no way to represent this sound, they usually represented it with a “d” but sometimes as an “s”. This is what happens frequently in foreign pronunciation of the Hungarian “gy”, which they pronounce as “ch, d, or dj”.

Adab ~ Asab=goddess of scribes “dab=tablet”; Hu: agy-ag=clay (hence clay tablet)

*kuđja >gadda =cover, cloth, pants >clothes;

Hu: gatyá=summer bagy pants>underpants

Liv: kaatsa= pants

*pađe >bad₄=hurt>hardship;

Hu: bánt=hurt

*ōđe> _da-g, na-d=bed

Hu: ágy =bed(dh>dj>gy)

There are many examples where a similar word can be found using “d” or “z”, but they may be coincidental. Intervocalic proto consonants with *t usually convert to s or z in Sumerian, however if the t became geminated then *t>*tt>d resulted instead. These are not those derived from dj =ǝ.

⁵ /John Hayes, “The Manual of Sumerian Grammar and Text”, Malibu, 2000, pg268.

t~d

The intervocalic “t” (VtV), which is surrounded by vowels, becomes a sibilant, however the geminated “tt” changes to “t” or possibly “th or d”. Both of these are the same in Hungarian.

*kota=tent, dwelling > ku-eš₃=tent > _eš >é=house Hu: ház=house; hely=place/town
*käte =hand >kiš-ib=hand, wrist; Hu: kéz=hand
*wetä = guide, lead > _uš; Hu: vez-et =lead
*wete > _eš > _e_ =water; Hu viz =water > i_ =drink

There are a few exceptions which converted *t to tt or th >d like:

*kute=drag >gíd; (common in U.A. & Dravidian) Hu: híz =drag
*kota=tent, house >ki-tuš=dwelling ; Hu: ház =house
*mete=honey >? mud-gi=sweetness. Hu: méz =honey

*nt >d

*kinte =fog >gid-im₆ =eclipsed, darkened; Hu: köd =fog
*-ent=verbative >du; Hu: -d,-t, -l =verbatives
*kunta > *xont =warrior > gud₂; Hu: had =army, kato-na=warrior;
*pente=roof, cover >a-bad=shelter; Hu: fed =cover; fed-él=a cover;

This “nt>d” change is also found in Hungarian, but it appears to be a relatively recent change, perhaps 1,500 years ago and isn’t common in other FU languages.⁶

tt>d

*atta =father > ada; Hu: atya =father
*atta=say, tell > du-g₄;
*otte=visible > éd>è; Hu: lát =see
*katte=back > _ed-in (*k>g/h>ø); Hu: hát =back
*kutt-ur?=border, separation > gud; Hu: határ =border
*latte=observe > u-lut-in; Hu: lát =see, observe
*catta =war, battle >sad_; Hu: csata =battle

There are a very few exceptions of words that converted *tt >t>š early, which indicates an early change that allowed another sound rule, the intervocalic t “VtV > š”. Vowel assimilation occurs only in morphemes, rather than in the word stems/Th pg 40/, since the consonants alone carried the meaning in appended morphemes. Vowel + Consonant (VC) words sometimes also switched positions to (CV). Root words were unchanged by inflection and used the same ideogram signs regardless of the conjugation of the word, similar to Uralic and Altaic languages. The prefix and suffix vowels adapted to the vowel class type of the root word in Old Sumerian, because of what is commonly called the influence of “vowel harmony” which is quite common in some agglutinative languages like F.U. and Altaic languages, but are not universal in all agglutinative languages, not even within all FU languages. It is important to remember this fact, since the examples may or may not show the changing of the vowel in the morpheme appended to the root words. Early Sumerian utilized light vowel harmony reflecting the characteristic of the spoken language, but late Sumerian did not. Since morphemes were often written phonetically, while the root word was written symbolically, these changes could be noted. The vowel in a morpheme could also be deleted, or moved from the front to the back (VC >CV) to make the pronunciation flow better, without any change in it’s meaning.

⁶ /The Kodex of Isfahan (Iran), which includes a Hungarian grammar and word lists, still uses nt instead of d.

4.3 The notation of Sumerian homonyms

Since Sumerian contains a considerable number of homonyms, the Latin character transcription of each of these signs that associates it to the particular cuneiform sign used to represent it, is marked in a sequence, where the first sign used has no accents or subscripts, the second has an accent (') above it, the third one has (`), then the rest of the homonyms were followed by numeric subscripts. Each of these versions is symbolized differently in cuneiform and has different meanings. None of these accents or numerals have any phonetic meaning and are unlike European characters, which use various types of accent marks for marking phonetic differences. In Sumerian they are only a way of notating the logograms used to represent the word and it would be much better to simply use numbers for all the various forms, rather than accents and numbers.

Examples of typical sound differences between Emegir and Emesal dialects of Sumerian. /Th. Pg 287

E.G	E.Sal	Emegir > Emesal	Hungarian i.e. Magyar
		lùg > zé.eb=sweet, good	d-es=sweet, szép= nice, pretty.
		àg > šàb =heart, center	zìv=heart, szügy=chest area
	n	lìjir > dimir =god	ündér= nature gods
m		lam > na.án =thing	nyag=material thing
		aṅ > še.en =head	F.U. * čanjkä =head, person, spirit-heat > Finnic her
n		nun-us > nun-us =woman	nenyech-ke=young wife
		lìjir > li.bi.ir =herald	ár =to travel, move about.
		udun > utul =heardsman	
	n	u.gig > mu.gi ₄ -ib =hierodule	
		in > šen =lady	szony =queen > lady, ⁷
		ga)-šan=queen, lady	éni=elder lady, aunt or nő=woman,
	or š	um > zé.èṅ =give	
		l-im > el-im =deer	l-at =animal
	or u	a, i > u ₅ =fat	woje > ia=fat, butter /Ugor
		du > e.zé =sheep	use =sheep > óz=deer (see Finish for utu)

These internal dialectal variations were not consistently marked at all times in the ancient documents and only those few that were written alphabetically could reflect the changing pronunciation. There are only a small number of such examples. These are only the internal dialectal comparisons of Sumerian and there are many other rules associated, with the changes from the proto language to Sumerian, when we base the comparison on the so called Finno-Ugrian protolanguage as the hypothetical reference. The F.U. language family may be nothing more than the scattered remnant of an ancient European protolanguage, whose influence survived in the most remote areas as it was pushed out by the expanding Indo-European languages during and following the bronze age. Most of the phonetic changes in Sumerian are common sound changes found in F.U. languages, especially in Hungarian, which was the most southern of this group sometimes ranging as far south as Transcaucasia in historic times,

⁷ /The word asszony is often claimed to be from Ossetic Iranian with whom the early Hungarians had a close relationship, but the word is not from Indo-European language family and it has many other early Mesopotamian forms from Elamite, Akkadian and even Ob-Ugrian has some similar words for female, wife. Why should it be forcibly explained as Ossetic, when this language originates from the north, long after this word existed in the deep south?

which was near the most northern Sumerian colonies, such as the city of Aratta. (references to the Armenian chronicles and to the New Arap Encyclopedia)

Some of the Sumerian comparisons to proto F.U. languages, can be noticed mainly through the filter of the sound rule comparisons, which may or may not be of interest to the reader and is not necessary for the purpose of learning Sumerian grammar. These rules are just the first steps in comparing languages, and they are the first small steps toward systematizing the expected changes. There are many limitations in Sumerian phonetics that hinder a more precise solution. Most linguists have simply rejected even trying, claiming that Sumerian is an isolate language. Perhaps, but we shall never know unless we try, by applying the comparative method. Even within accepted language families there are plenty of cases of uncertainties and divergences that are not understood because of the lack of historic references that could explain certain sound changes as well as the huge time gap that erased the bulk of the shared vocabulary. The end results of this has been that some language families like FinnoUgrian only have a small core of words that are known to be related, and leave most unproven, because they are lost in the sister languages or distorted by an unusual undiscovered sound rule, which have few examples. These may even be mistaken to be loan words.

REFERENCES

1. Lakó György & Rédei Károly, "A magyar szokészlet finnugor elemei", Budapest 1971 (for finno-ugrian comparison and protowords)
2. University of Pennsylvania Electronic (online) Sumerian Dictionary.
3. John Halloren, "Lexicon of Sumerian Logograms", Los Angeles 2008. (I have expanded this to include Turkish, Hungarian, Dravidian equivalents.
4. Marie - Louise Thompson, "The Sumerian Language", Copenhagen 1984.
5. Dr Varga Zsigmond, "Az ősmagyar mitologia Szumir és Ural-Altáji öröksége", San Francisco, 1956 (reprint)
6. Coloman-Gabrielle Gostony, "Dictionnaire D'Etymologie Sumérienne Et Grammaire Comparée", Paris, 1975
7. Csöke Sándor, "Sumér Magyar összehasonlító nyelvtan", Buenos Aires, 1972.
8. Francisco Jos Badiny, "The Sumerian Wonder", Buenos Aires, 1974
9. Orbán Árpád, "Folio Hungarica Déli Magyar Öshaza", Garfield N.J., 1975 (reprint of notes) multilingual comparative lists.
10. Dietz Otto Edzard, "Sumerian Grammar", Leiden (Netherlands), 2003.
11. John L. Hayes, "A manual of Sumerian Grammar and Texts", 2nd edition, Malibu 2000.
12. Frederik Kortland, "The Indo-Uralic Verb", 2001 (on line)
13. György Lakó, "Proto FinnoUgric Sources of the Hungarian Phonetic Stock", University of Indiana
14. Rene Labat, "Manuel D'Épigraphie Akkadienne", Paris, 1963

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