Uvse? Logograms

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This article is an explanation of the origins and the structure of the **Uyse?** writing system, which is the basis for writing all Uyse?ic languages and was adapted for those of the Bé as well.

The usual apology for breeziness

The brevity of this account will make it seem a much neater story than it was in reality. The Uytainese are indefatigable chroniclers of their own past and have laboriously analyzed every inscription they could, but they have no carbon-dating techniques nor any systematic archeological plan. Early historians were chiefly after the **non srai**, the 'correct form' of glyphs, which for them meant the earliest. This at least gave them an interest in chronology, but also a habit of interpreting everything as writing. Only in the last few centuries have scholars recognized that the earliest records were iconic or mnemonic and only later developed into a true writing system.

A note on forms

Discussing the origins of the writing system, it's most useful to use the early,

clearly pictorial forms. These will be shown in green: Uytai.



However, it seems pedantic to use *only* early forms, without referencing the actual modern script which, after all, is the subject of the discussion.

Therefore I've often given the **modern forms** as well; these are in **blue**:



Both are in **normalized forms** which hide an immense range of variation, over three millennia and over half a continent, in different media (clay, papyrus, stone).

Uyse? is written **right to left**; this affects not only the order of characters (the skull above represents uy, not tai) but their pictorial content; e.g. the

tur 'go back' would, to an Uytainese, obviously be man pictured in walking backwards.

Finally, note that all **pronunciations** are cited in standard modern Uyse?. Due to the nature of the writing system, it's not even easy to determine what the ancient pronunciations were.

Tallies

Uyse? writing derives from three sources: astronomical sources; accounting systems; and iconic chronicles.

The foundation for all of these was tally marks representing numbers. The Uyram counted on their fingers, then their toes; as Almean humans have four toes this produced an octodecimal system. The very earliest records, from the -400s, show strokes or dots for each number:



This was obviously inconvenient for higher numbers, and soon a symbol was devised for **hot** 'eighteen':

$$-- |$$
 twenty $33_{18} = 57$

This sufficed for centuries, but it was still necessary to write 17 strokes for '17'. Around 200, when burgeoning city-states required more record-keeping than ever, a new system appeared, which simply drew a hand for 5, two hands for 10, a hand and a foot for 14. As the graphemes were first drawn, this did not actually save any strokes, but it grouped them:

Inevitably the graphemes were simplified, and the individual strokes were combined; we can now speak of (say) a grapheme for 'three' rather than three individual strokes.

With some delay, similar ways were found to group 18s and powers of 18.

The system does not parallel Uyse? speech—e.g. 12 is one word, **tsum**, and 17 is **orhot**, literally 'one-[from]-18'.

Accounting

Tallies could be used by themselves for calculations, or combined with pictographs. For instance,



can be read **orpret notse?** 'nine notseh oxen'. In such expressions, for the first time, order was fixed—the item always comes first, and the tallies are listed in descending order. This matches the order of speech if the symbols are read right to left.

The Uyram city-states were all command economies, and thus needed ways to record and direct economic activity: manifests, orders, records of production and taxation. The bulk of the records were lists of items and calculations, but icons developed to organize and label them. Some that developed into later words include:

Glyph	Modern	Original meaning	Contemporary meaning
		items needed	tson need
王	7	taxes received	tyun portion
\nearrow	2	temple share	fun sacrifice
•	(population total	son count
رکی	Ä	production, yield	mait harvest

Note that corresponds to two syllables **notse?**; this was not uncommon, though there has been a tendency to reinterpret two-syllable glyphs as

referring to one syllable only—e.g. above was for centuries read as **pautyun** 'taxes', but is now read only as **tyun** 'portion'.

This wasn't anywhere near a writing system— it didn't yet have toponyms, much less any way to write down a new message or ask a question. But it created the habit of recordkeeping, a caste of scribes, and a market for future innovation.

Astronomical records

Beginning in the late 400s we see astronomers recording various events: new and full moons, the motions of the planets, the first appearance of various stars, and portentous events such as eclipses and comets. The basis for all of this was of course numbering days, or even hours, and then the periods of the moons—the 17-day **kraiwal**, the period of Iliacáš, and the 28-day **trauwal**, the period of Iliazë.

They devised a set of icons of use in their records, such as these:

Glyph	Modern	Original meaning	Contemporary meaning
T T	E	full Iliacáš	Krai Iliacáš
* * 1000	_	new Iliacáš	_
		full Iliažë	Trau Iliažë
	nn	the planet Išira	Tsyai Išira
111 111	M ()	at its brightest	nyer noon, zenith
\bigcirc	Ö	eclipse of Iliažë	kho? eclipse
$\stackrel{\circ}{\equiv}$		comet	fril comet

For instance, a short section of a registry might look like this:



This records the first half of the 22^{nd} **kraiwal** in the registry. The events recorded are

- Krai (Iliacáš) was full on the 1st day (as it always is)
- Išira was at its brightest (i.e. in opposition) on the $2^{
 m nd}$
- Trau (Iliažë) was full on the 7th day

Krai was new on the 9th day

Though some of the icons later became characters for words, they are still prelinguistic at this stage—the annotations do not correspond to a particular Uyse? sentence nor the icons to words. Icons might correspond to a whole event (note that "full Krai" is a single icon, but two words, **yan Krai**), but some events (like the opposition of Išira here) were composed of an event + object, in a more language-like way.

The symbols can be seen as heraldic—e.g. the symbol for full Iliažë shows a sky-deity (symbolized by a sort of helmet) flanked by two burning spears (Krai gets only one, as it's dimmer), plus a sword. The 'new Krai' icon

represents the **uywar** of the god, conceived as dead, with a mourning servant and two stars pointing out the darkness of the new moon.

Chronicles

The Uyram worshipped their own ancestors (**uy**). In the case of the most notable ancestors, such as dead kings and lords, an ancestor was represented by a bundle of his own bones, tied together with hides, feathers, jewels, and gold— an **uywar** 'ancestor body'. It was important to remember who was who, and as early as 200 we see heraldic representations used for specific ancestors.

At first these were arbitrary, or had only genealogical meaning; e.g. the icon for Purthan, a king of Tsopwan of ~370, was a picture of a mountain lion, an eagle, and a herd of notseh cattle— all emblems of his descent having nothing to do with his name, which meant 'good-fight'. On the other hand, when an icon was needed for his grandon Pursrai (~430) 'good form', it was natural to create a variant on Purthan's icon, and by the time of Pursaut (~480) the

shared element (now written could simply be interpreted as the word

pur (modern 🎒).

The **Miller's Stele**, carved around 500, lists the kings of Srethun from Ruysi? (\sim 110) to Mwatsye (\sim 500), with the length of their reigns. The entry for Mwatwor (\sim 290) looks like this:



Read right to left, this is a portrait of the king, his name (within a cartouche), and his reign: <18><6> = 24 years. (The asterisk-like symbol for **fyat** 'year' represents the six seasons; it hasn't survived.) In modern script the same inscription would be written:



Mwatwor's icon is a direct representation of his name—though wat 'great' was originally a heraldic sign, also seen on his helmet. This isn't true of all the Tsopwanese kings—Ruysi?, for instance, gets his own arbitrary symbol.

Note the swash in the modern form connecting the two glyphs of Mwatwor's name; this directly descends from the ancient cartouche and neatly marks two-character names.

Besides identifying **uywar**, the icons were used for records, captions for art, and religious invocations. As such it was useful to have specialized icons for place names, seasons, and common events. Some Uyse? glyphs that date to this stage of development:

Glyph	Modern	Original meaning	Contemporary
			meaning
0)0)u{ §	conquest	thrum conquer
99	92	marriage	wim acquire
O)&]	ofs	a ceremonial public honoring of successful generals or kings	tsar praise
\$	9	accession to throne	khol king's headgear

These captions too fell short of linguistic representation; a label like

MWATWOR THESTYET CONQUER is more a mnemonic than a representation of a particular sentence such as "Mwatwor conquered Thestyet". And of course if he did something not covered by the existing icons, such as falling in love with the daughter of Thestyet's king, there was no way to record this.

Mediums for writing

The first writing material was clay, incised with a stylus; this was particularly suited for the simple strokes used for numbers, which could be pressed into the clay rather than written. The word for 'write', **hruy**, literally means 'scrape'. Accounting systems continued to use clay for centuries, and glyphs from this era tend to be abstract and linear, suited for the stylus.

What I've called 'chronicles' were more accurately inscriptions or captions accompanying artwork, thus painted or sculpted. These glyphs could be quite elaborate and their pictorial character was emphasized (though stylized).

Clay was readily available wherever there was water, but tedious to use in quantity, and bulky to store. Astronomers thus turned to **kloy**, a reedy plant. Its green outer skin was removed, exposing the pith, which was sliced and soaked in water, then laid out in a frame in criss-crossing layers, and finally dried by pressing with cotton sheets. This produced thin sheets also known as **kloy**; the usual writing implement was a **fraslin** 'quill' and the ink was **myulnwet**, literally 'wet soot'.

The most prestigious form of writing was carving in stone, but the quickest and commonest was drawing on **kloy**; this was therefore the basis for further development of the script (and for the early representations, shown in green in this document).

The Uyram never developed parchment, perhaps because notseh leather and sheepskin had too many other uses. The Lé developed parchment in the 1900s and the practice was then imported into Uytai, along with the word, **tohu**.

The consolidated system

Under **Pausol**, king of Tsopwan and ruler of the lower Homtso and Hurtso, these three strands of development were consolidated and greatly expanded. In effect, instead of merely 'saying' things like

Krai was full on day X of month Y

Here are 100 notseh oxen

Pausol conquered Swi?kyau

it was now possible to 'say'

Pausol conquered Swilkyau on day X of month Y

Srethun owes 100 notseh cattle to Pausol

Lord Khekla?'s taxes for month Z are late

Again, the actual representations were schematic, without grammatical particles, lackadaisical about glyph order, and limited to certain topics.

As important as consolidation was standardization. Each city had had its own icons, each scribe his own way of writing. Pausol, consolidating his father Paukhel's conquest, had the perfect opportunity to standardize glyphs, largely of course choosing those common in Tsopwan, but using foreign glyphs when there was no local equivalent.

As Paukhel had brought the most important **uywar** of all the conquered cities to Tsopwan, it was more than important to identify them in a fixed way. The Tsopwanese were not interested in learning the heraldic conventions of a dozen cities; what they had, however, was the names, elicited with religious reverence from the carekeepers of the **uywar**. It was natural to create two-glyph sequences for each king, where a given word had a common representation. This produced over 150 glyphs each associated with an Uyse? word, which would be invaluable in extending the system.

True writing

As early as the reign of Pausol's son Syunse? (from 782), people discovered that the name glyphs could be used as modifiers—instead of saying just **Syunse?** you can write **pauram Syunse?** 'king Syunse?' or even **mwat Syunse?** 'great Syunse?'. It wasn't much of a stretch to write **Syunse? Tsopwan pau** 'Syunse? rules Tsopwan'.

Once such interpolations became common, we begin to see invented glyphs, increasingly extending the range of things that could be said.

The greatest inventors often go unknown; the Uytainese like to attribute writing to Pausol, but the true genius was an unknown scribe of the 900s who realized that glyphs could be extended with the rebus principle. E.g. **he** 'be'

could be represented by the glyph for hre 'flow'; phrau heavy by

phau 'jar'; **khyet** 'if' by **khet** 'small bowl'. Though there was a period of loose experimentation, the eventual rule was that a word was close enough to be borrowed if it rhymed and the initial consonants were similar—either homorganic (t/th/ts) or similar in sound (f/h, ph/th). Medial liquids and semivowels were ignored, as seen in the examples above.

Other ways were found to expand the lexicon:

• Graphic combination; e.g. ram 'people' doubled the glyph for har 'man'

- Highlighting a portion of another glyph: e.g. **tsur** 'neck, shoulder' was **phlem** 'back' with the appropriate area hashed; **hyau** 'top' was a picture of an object with the top highlighted.
- Double phonetics; e.g. **sruyn** 'only' = sroy 'much' + ne

 'adjectivizer'. But the similar-seeming compound **tser** 'this one' = tse 'this' + ar 'subordinator' derives from a phonetic contraction—

 tser actually derives from tse + ar.

By about 1100, the time of the formation of Uytai by the kings of Uykhrai, glyphs had been invented (or could be borrowed ad hoc) for virtually all words, and it was possible to write any Uyse? sentence.

This must be somewhat nuanced:

- Scribes often omitted grammatical particles— to the point that we are very unclear on early Uyse? syntax. There are some tantalizing hints that there was a more complicated verbal system.
- The major users of writing—still accountants, bureaucrats, astronomers, artists, and chroniclers—retained many traditional usages and formulas. Astronomers, for instance, still retained their glyphs for 'full Krai' and 'new Krai'. Bureaucrats now used dozens of special glyphs that were more functional than linguistic (somewhat like our \$ sign, which precedes a value though the word *dollars* appears after it).
- Writing was still heavily restricted by topic, so quite a few common words are unattested simply because they would not occur in the texts people were writing. The first major use of true writing was historiography; only much later do religious, scientific, and philosophical works appear.
- Many early texts are unreadable, either because they use unfamiliar glyphs, or they are so telegraphic that the message can't be reconstructed without the context. Or the scribes may be doing something besides recording language— practicing glyphs, for instance.

Though there was a preference for right-to-left order, scribes still felt free to write in any direction and to put the glyphs wherever they fit, which can make texts challenging to read, especially as most instances are quite short.

Regularized numerals

For reference, here are the numbers in modern form:

As the writing system coalesced, three important changes were made to the way numbers were represented.

First, the numbers from 1 to 17 were each written as single glyphs— a change which facilitated computation and even allowed positional notation.

Second, the glyphs were largely brought in line with the spoken numbers. The numbers 7-9, 11, and 13-17 are all formed subtractively: e.g. **swolhot** 'fifteen' is 'three-18', i.e. 18 minus three. The numerals now match this structure, with the exception of 14 (which retained its two-hands-and-a-foot glyph) and 13 (which is based on this rather than on 18).

Third, instead of duplicating and grouping powers of 18, these were represented as a unit and power. E.g. 70₁₈ (126) was no longer represented

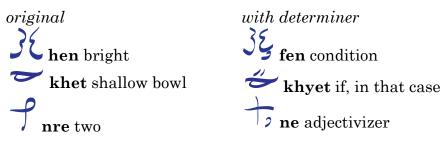
as <90><18><18>, but as formula to the second of the secon

76₁₈ (132) was written 77 (132) was written 77 (18><6>, which can be directly read **het hotswolpret** 'six 18-seven'.

Significs

The near-rhyme convention meant that (say) the glyph (k) kroy 'sword' could be used for khroy, kloy, khloy, kwoy, khwoy, kyoy, khyoy, and even tloy, koy, poy. Not all of these were actual words, but this began to be a serious inconvenience.

One expedient would be to create new glyphs, but after a certain point this was avoided. Instead, the glyphs were disambiguated by adding **determiners**, graphemes with no meaning of their own. Some examples:



This process was unsatisfactory because there was no way to generalize it; they seem to have caught on only if they were pioneered by a particularly prestigious scriptorium, such as the imperial observatory.

Better yet was to add another glyph used to suggest the right meaning— a **signific**. For instance, **khwoy** 'trash' was written with the signific **tri?** 'discard':



This made **kroy** 'sword' the **phonetic** for the combined glyph.

At first the signific was written immeditely after (i.e. to the left of) the phonetic, as shown; but this introduced as many ambiguities as it solved. The eventual convention was to write it below the phonetic:



Some examples:

Compound phonetic signific

fai grace

hai shell

hwai woman

phrau heavy

phau jar

tsyur white

tsur shoulder

signific

hwai woman

hwa carry

Sometimes the derived glyph was written more often than the original, and it was the original that received a disambiguator. For instance, hre 'flow' was used for the very common word he 'be', and he is still written that got the signific fu water, forming the new glyph for the new glyph for the very common word he 'be'.

Standardization

The process of elaborating the script proceeded in a time when the southern zone was divided between two large, centralizing empires, Uytai and Krwŋ. Both took standardization of scribal practice as an affair of state, and issued lists of approved glyphs. Actual practice was a bit looser, but the scribes of the central ministries produced the most texts, and their ductus or particular handwriting was highly influential.

The writing of the two capitals, Uykhrai and Krwŋ, diverged somewhat, though they also influenced each other. There were some differing glyphs, and the overall ductus also diverged— Uykhrai preferred more circular shapes, while Krwŋ's were more angular; the Krwŋese also kept closer to the pictorial origins of the glyphs.

The rivalry became moot when Krwn collapsed for ecological reasons in the 1600s. Further development of the script was of course based on the Uytainese forms.

The adaptation to Lé

Starting in the 1700s the **Lé**, then led by the Men's Empire, adapted the Uyse? glyphs for their own language. This was facilitated by the largely monosyllabic nature of both languages, but complicated by their different phonetic structure.

For instance, the word té 'underbrush' could be written with the similar-

sounding glyph **the?** 'hand'. That was well and good, but due to the phonotactics of Lé this word was the best representation of te, tes, de, des— multiplied by five tones each: te, te,

(In Uyse? **the?** served as a phonetic for words like **tre?** 'empty'. But so far as the Lé adapters were concerned, **tre?** was a separate glyph, which could be borrowed as a unit to represent words like *trε* 'bless'.)

The Lé thus introduced disambiguators of their own, on a phonetic principle that went some way toward turning their system into a syllabary.

They also, of course, modified the ductus of the Uyse? glyphs in their own way; as a result of this and Uytainese developments, the relationship between modern Lé and Uytainese glyphs is hard to see except for experts.

For details and examples, see the Lé grammar.

Cursive

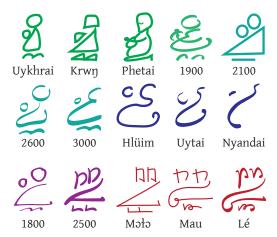
The glyphs presented in green are the archaic forms, which reveal the original pictographs as well as the relationship to Lé. Two thousand years of use, however, has transformed most glyphs to cursive forms.

As an extended example, here is the poem by Heyfai presented in the grammar, in modern cursive:



Variation

As a sampling of the variation found in the script, here's the glyph **hwai** 'woman' in various times and places.



The first three symbols, in green, date to around 1000 and show the variation found in the two southern empires plus the peripheral region of Phetai, which was known for emphasizing the glyphs' pictorial quality.

The next four, in teal, show Uytainese forms from various periods. The very geometical style of 2100 was the preference of the reforming Hanthal dynasty.

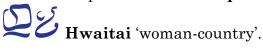
The three forms in blue are modern southern forms from three different countries. Hlüim favors a careful, meandering line; the Nyanese are noted for their near-illegible scrawls; both may also use the Uytainese style. It should be emphasized that an educated reader may be exposed to all of these forms, of all periods, and may choose to write them; archaic styles are often in vogue.

The last row of glyphs are Beic. The first is the earliest northern form, borrowed for *háe* 'surprise' and *lo* 'woman'. The Bé liked to square off their graphic components, producing the next variant. The three final forms, in red, are modern forms from three different countries. The Bé languages have tended to each develop the script on their own, with no central standard.

Foreign words

Since ancient times Uyse? has avoided inventing glyphs, even if there is a strong need, as for a slang or foreign word. There simply is no glyph for **yu?** 'cunt'— in writing, a more decorous term such as **lyan** 'vagina' must be substituted.

Where possible the Uytainese create native names for foreign things; thus the Dnetic spirits were named **purhret** 'good powers', and Belesao is named



Where it's unavoidable to borrow phonetically, as with **Fertur** 'Verduria', the closest glyphs are used, generally following the same rules as the assignment of phonetics. Significs are not needed for names, because Uyse? still marks names with a connecting swash, the descendent of the royal cartouches. Thus **Fertur** is written:



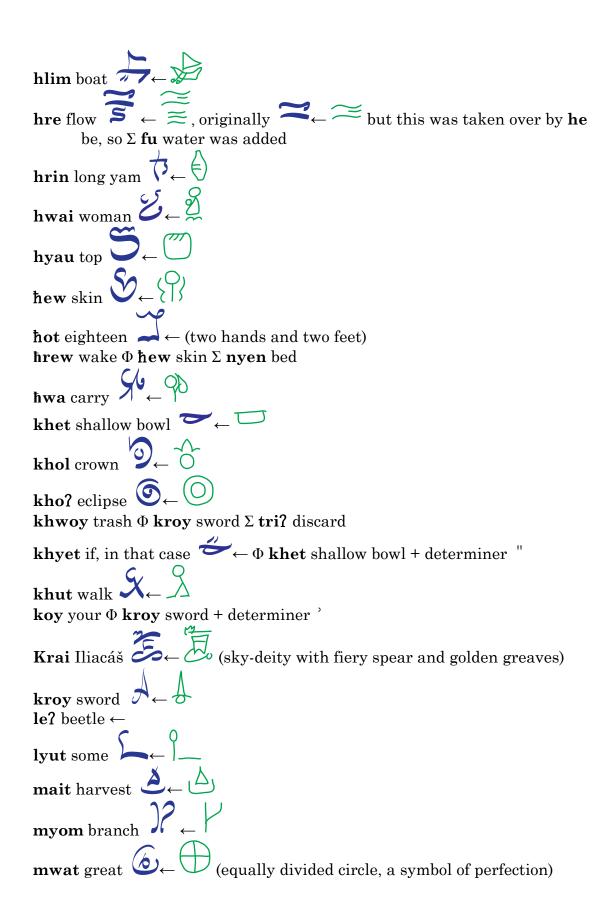
using the characters **fwer** 'piebird chick' and **tur** 'return'.

Lexicon of glyphs cited

Here are all the Uyse? words referred to in this grammar. Each entry starts with the transliteration and a simple gloss (for more details or nuances see the full Uyse? lexicon), then one of the following:

- its modern script form (blue), then either:
 - o its archaic form (green), with an explanation if non-obvious.
 - o if it's formed using a determiner, a reference to the original.
- its graphic etymology:
 - \circ Φ identifies the phonetic, Σ the signific; the actual compound character is entirely predictable from these and so is not drawn, to save space.

ar subordinator <
en not 2 — (an erasure)
fai grace Φ hai shell Σ hwai woman
fen condition $\mathcal{F} \leftarrow \Phi$ hen bright + determiner '
fra feather
fril comet ———
fu water ≶ ← ≅
fun sacrifice ← ← (an offering basin)
fwuy wind (trees in wind)
fyat year (seasons: seed, plant, harvest, snow)
fyer piebird chick
hai shell $\mathcal{Z}_{\leftarrow} \mathcal{G}$
han purity $\mathfrak{S}_{\leftarrow}(?)$
har man \mathcal{G}_{\leftarrow}
he be: uses
hen bright
het six \leftarrow (five + one)
hew snow
hey flower ♥← \$\frac{4}{3}
him silent Φ hlim boat Σ wo? mouth
hin therefore Φ hrin long vam + determiner "



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na that 14-
nar that one \wedge \leftarrow = na that + determiner <
ne adjectivizer → ←
                     \Phi nre two + determiner '
nrehot sixteen
nye genitive = nyeyt belong
nyen bed <del>~</del>←
nyer noon  \overrightarrow{\overline{r}} \leftarrow \overrightarrow{\overline{r}}  (sky-deity with crown)
nyeyt belong
or one
orhot seventeen 🕹
ortsum \nearroweleven \leftarrow (one-twelve)
phau jar ○←
phrau heavy \Phi phau jar \Sigma ħwa carry
phun five \uparrow \leftarrow \uparrow (hand held up)
phuy sheathe \Phi puy hammer \Sigma kroy sword
phwer cougar (♣ ₩
              (two hands held up)
```

```
proy thing —
pur good, virtuous ← (from a king's name; see text)
puy hammer ——
pyey I (resp.) (abasement before another)
ram people (two men)
son count (face marked with soot as counted)
\mathbf{sruyn} only \leftarrow \Phi \mathbf{sroy} much \Phi \mathbf{ne} jar
su? cold
swol three
swolhot fifteen \leftarrow (three-18)
tai land — (field and water)
tha fall (a man fallen down)
the? hand
thrum conquer (lord over enemy ancestors, army, fields)
Trau Iliažë (sky-deity with two flaming spears and a sword)
tre? empty \Phi the? hand \Sigma en not
tri? discard
              - 🏅 (originally a public celebration of victory)
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