

# A Dravidian decipherment of Indus script

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This publication is for feedback and further elucidation on the basic decipherment for larger community of enthusiast out there in the world. Important documents for understanding Indus script is the corpus created by Asko Parbola and [Iravadham Mahadevan's concordance](#) work (here on referred to as M77). We also need the [Dravidian Etymological Dictionary](#) (DED) by Burrow and Emeneau. Please download the two PDFs from Internet Archive and you should be ready. There are two excellent software versions of these PDFs: [Iravadham Mahadevan's concordance](#) maintained by Roja Muthiah Research Library and [Dravidian Etymological Dictionary](#) maintained by Digital South Asia Library of the Chicago University. Another rich source of conjectures and data is the great work of Bryan Wells: [The Archaeology and Epigraphy of Indus Writing, Archaeopress, 2025](#), who also has an excellent online database.

There is also a very rich tradition in the Russian school, especially Alexander Dubyanski, who sadly passed away due to Covid-19. Yuri Knorozov is another great scholar in this tradition and his collected works is [here](#), which includes an attempt at decipherment of IVC signs.

If you want to write documents with Indus signs then you need Asko Parbola's NFM Indus Script font. This document was written in that font, a lovely gift from MVB to me. Now on to the beautiful discovery of the decipherment.

The decipherment became possible with the arrival of the splendid work by MVB in Sasanam: M.V. பாஸ்கர் (Bhaskar), அன்றைய தலைப்பு செய்திகள் (Yesterday's headlines), சிந்துவெளி நாகரீக சிறப்பு வெளியீடு (Indus Valley Civilization Special Issue), கிருஷ்ணகிரி மாவட்ட வரலாற்று ஆய்வு மையம் (Krishnagiri District History Research Center), சாசனம் (Sasanam), 2025.

This laid down the map that lead to all the linkage between graphics and the text, building this beautiful journey of discovery enabled by M.V. Bhaskar, with whom I have been working for the past several years. My learning in art, Brahmi and Indus Script derived from his interactions.

Decipherment is a commutative diagram:



Of course, a lot of hard work and walking on three legs. We use M77 to denote Mahadevan's sign numbers, but the glyphs are provided by Asko Parbola's NFM Indus Script font.u

## Skilled artistry of Indus script

At the core of Indus script lies the mastery of a skilled metallurgist (𑀩𑀺?). We will illustrate this with these few examples:

𑀩𑀺𑀭𑀺𑀩𑀺𑀭𑀺𑀩𑀺 = 𑀩𑀺𑀭𑀺𑀩𑀺𑀭𑀺𑀩𑀺 = vėl-aṇi-nuṛan-ūr = வேல்அணிநுழனூர்

The semantic meaning being the town with tailors, jewellery and hunting professions.

𑀩𑀺𑀭𑀺𑀩𑀺𑀭𑀺𑀩𑀺 = | 𑀩𑀺𑀭𑀺𑀩𑀺𑀭𑀺𑀩𑀺 = mu-iru-mėl-pēr-il = மூவிரு மேல்பொருள்

The semantic meaning being the mighty great guardian of the township (elevated to kings and gods at later times).

## Some important townships

This is just indicative of the various kinds of townships and professions, and a deeper quantitative study is required to obtain their relative importance. What is interesting is that the last one is farmer's town, which doesn't count really as a town, but in Dravidian languages, the term "ūr" seems to cover what we call "village" also.

| M77 Sign | Glyph      | Syllable         | DED | Description                 | Tamil          |
|----------|------------|------------------|-----|-----------------------------|----------------|
| 342      | 𑀩          | ūr               | 752 | town                        | ஊர்            |
| 347      | 𑀩𑀺         | vėlūr            | -   | hunter's town               | வேலூர்         |
| 358      | 𑀩𑀺𑀭        | chevūr           | -   | bronze worker town          | செவ்வூர்       |
| 351      | 𑀩𑀺𑀭𑀺       | vėl-nuṛan-ūr     | -   | hunter-cloth worker town    | வேல்நுழனூர்    |
| ?        | 𑀩𑀺𑀭𑀺𑀩      | che-palla-ūr     | -   | bronze-elephant worker town | செவப்பல்லூர்   |
| 355      | 𑀩𑀺𑀭𑀺𑀩      | vėl-palla-ūr     | -   | hunter-elephant worker town | வேல்பல்லூர்    |
| 361      | 𑀩𑀺𑀭𑀺𑀩      | che-ko-ūr        | -   | herder-bronze worker town   | செங்கோவூர்     |
| 372      | 𑀩𑀺𑀭𑀺𑀩𑀺𑀭𑀺𑀩𑀺 | vėl-aṇi-nuṛan-ūr | -   | hunter-jeweller-tailor town | வேல்அணிநுழனூர் |
| 15       | 𑀩𑀺𑀭𑀺𑀩      | uṛavūr           | 688 | working, farming town       | உழவூர்         |

## Numbers

Numbers are treated separately, but they are just like other glyphs, easily welded and affixed to other glyphs, producing a plethora of possibilities.

| M77 Sign                             | Glyph | Syllable             | DED      | Description                          | Tamil                         |
|--------------------------------------|-------|----------------------|----------|--------------------------------------|-------------------------------|
| 86                                   |       | mutal, -al           | 4950     | one, primary                         | முதல், -ல்                    |
| 87                                   |       | -ar, -ir, iru-       | 474, 481 | two, great, eminence                 | ரண்டு, -இர், -ர், இரு-        |
| 89                                   |       | mū-, mūn-            | 5052     | three                                | மூ-, மூன்-                    |
| 95                                   |       | nal-, -nāl, nalla-   | 2912     | four, good                           | நல்-, -நால், நல்ல-            |
| 96                                   |       | -ai                  | 2826     | five, unity                          | -ஐ                            |
| 108                                  |       | aru-, -ar            | 2485     | six, river, fort                     | ஆறு, அறு-                     |
| 110                                  |       | eṟu-, -eṟu           | 910      | seven, rise, fertile                 | ஏழு, -எழு                     |
| <b>Application of above phonemes</b> |       |                      |          |                                      |                               |
| 112                                  |       | nalām, ñālam, munnāl | 2913     | land, healthy, before                | நலம், நாலம், முன்னால்         |
| 116                                  |       | nallai, nellai       | -        | rice                                 | நல்லை, நெல்லை                 |
| 121                                  |       | nal.nel.āl           | -        | good rice person                     | நல்நெல்லாள்                   |
| 120                                  |       | mu-munamum           | -        | three generations back               | மும்முன்னோனும், மும்முன்னமும் |
| 119                                  |       | mu-munnor            | -        | two generations back                 | மும்முன்னோர்                  |
| 107                                  |       | mūri, mūrā           | 5041     | bullock, buffalo                     | மூரி, மூரா                    |
| 177                                  |       | nal-mutal, nalāl     | -        | good chief, good worker, hard worker | நல்முதல்-, நல்லாள்            |

## Clitics

Clitics provide sentence structure (the subject and the object). The default reading order is right to left, but before the clitic 𑌮 (sign 99), the reading is left to right.

| M77 No. | Glyph | Syllable           | Tamil                       |
|---------|-------|--------------------|-----------------------------|
| 97      | 𑌮     | -il, -da, -ta, -in | -ட, -டு, -த, -து -இல், -இன் |
| 99      | 𑌮     | -ra, -ru           | -ர, -ரு, -ற, -று            |
| 123     | 𑌮     | -yar, -yin         | -யர், -யார்                 |
| 344     | 𑌮     | ūr-ār              | ஊரார்                       |
| 343     | 𑌮     | ūr-il              | ஊரில்                       |

## Learn through pun

Following are an indication of the pun that abounds in Indus script, which is termed as the “rebus principle”. Of course, it only makes sense if your language is close to ancient Dravidian. For deeper understanding you may have to refer to some of the sign values below this in the section on “Syllabic development”. We only sketch a few, but the Indus script syllabary abounds in such pun. The reduction of number of glyphs required for a writing system for Dravidian language is very much dependent on prudently choosing glyphs that provide highest possible homophony.

| M77 Sign | Glyph                                                                                                                                                                                                                                                                   | Syllable         | DED        | Description                        | Tamil             |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------|------------------------------------|-------------------|
| 298      | )))                                                                                                                                                                                                                                                                     | valai = vala+ai  | -          | ) = vala+5                         | வல+ஐ=வலை          |
|          | Right-parenthesis is “vala” (curved as well as right) in Tamil and “vala” + “ai” = “valai”. “vala” is curve, as well as “right”, which fits well with description of right parenthesis. Also, ))) can be further expanded as “valaicci” or “valayacci” or “valayanjih”. |                  |            |                                    |                   |
| 62       | (𑌵)                                                                                                                                                                                                                                                                     | valai-kanni      | 5379       | scabbard fish with fang-like teeth | வாளை கன்னி (மீன்) |
|          | The fish “vālai” is known as the scabbard fish that has sharp teeth. A nice tooth is drawn at the top to elucidate the learning. This explains that the right-parenthesis sign-287 carry the phonetic value “valai”                                                     |                  |            |                                    |                   |
| 295      | )𑌵                                                                                                                                                                                                                                                                      | eri-valai        | 902        | Another sharp tooth fish           | ஏரி வாளை (மீன்)   |
|          | A fresh water shark, <a href="#">Wallago attu</a> , also known “eri-valai”, a pun again on the word with rebus equation: “vālai” ≈ “valai”. The prefix “eri” comes from “two” or “iru”, leading to one more rebus equation: “iru” ≈ “eri”.                              |                  |            |                                    |                   |
| 63       | (𑌵𑌵)                                                                                                                                                                                                                                                                    | kanni-pori-valai | -          | Trapping of birds                  | கன்னி-பொறி-வலை    |
|          | This learning tablet defines the phonetic value of fish as “kanni” and the bird as “puri” by defining it through a polysyllabic pun as “kanni-pori” with a parenthetic “valai” . The “kanni-pori” in Tamil is “trapping”.                                               |                  |            |                                    |                   |
| 64       | 𑌵𑌵𑌵                                                                                                                                                                                                                                                                     | valai-kanni      | -          | The clitic reverses reading order  | கன்னி-பொறி-வலை    |
|          | The clitic sign 64 reverses the reading order to the right of it. This learning script defines that.                                                                                                                                                                    |                  |            |                                    |                   |
| 376      | 𑌵𑌵                                                                                                                                                                                                                                                                      | pal              | -          | teeth                              | பல்லு             |
|          | A teeth is indicated by the protruding teeth effect, just like in the fish teeth.                                                                                                                                                                                       |                  |            |                                    |                   |
| 57       | 𑌵𑌵𑌵                                                                                                                                                                                                                                                                     | irumpu           | 486        | iron                               | இரும்பு           |
|          | Now we have triple pun: iru-pu (two insects) ≈ erumpu (ant) ≈ irumpu (iron)                                                                                                                                                                                             |                  |            |                                    |                   |
| 181      | 𑌵𑌵𑌵                                                                                                                                                                                                                                                                     | kottu            | 2065, 2064 | pour (sting)                       | கொட்டு            |

| M77 Sign                                | Glyph                                                                                                                                                                                                                 | Syllable  | DED  | Description                                         | Tamil  |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|-----------------------------------------------------|--------|
|                                         | We can see pincler claws are indicated to show “sting” and “pour” are homophones in Dravidian “kottu”. The stinging honey-bee also is supposed elucidate connotations of “honey” that pours (kottu) from the beehive. |           |      |                                                     |        |
| 310                                     | 𐏃                                                                                                                                                                                                                     | vila-vila | 5424 | tremble with fear                                   | விலவில |
|                                         | This cognates with “vavvāl” (DED 5370), probably a long-tailed fruit bat, with an eerie shivering scene that it creates.                                                                                              |           |      |                                                     |        |
| 303                                     | 𐏄                                                                                                                                                                                                                     | iṭa,      | 432  | cleft, gap, split, crack open , slit, breach, chasm | இட     |
| Also works as “iṭaveli” ≈ “iṭai-valai”. |                                                                                                                                                                                                                       |           |      |                                                     |        |

## Syllabic development

We outline from top to bottom how the syllabary is slowly developed from simple to complex glyphs. Happy journey!

| M77 Sign | Glyph | Syllable              | DED              | Description                                   | Tamil        |
|----------|-------|-----------------------|------------------|-----------------------------------------------|--------------|
| 1        | 𐏁     | an                    | 131, 132         | person                                        | அன்          |
|          | 𐏂     | an(n)-an              | 131, 132         | brother                                       | அண்ணன்       |
| 2        | 𐏃     | kāvalan               | 1417, 1416       | security guard                                | காவலன்       |
| 25       | 𐏄     | mutalvan              | 4950             | chief                                         | முதல்வன்     |
| 26       | 𐏅     | nal-mutalvan          | -                | good chief                                    | நல்முதல்வன்  |
| 3        | 𐏆     | aṇṇal, āl             | 110, 399         | great man, servant, slave, soldier, messenger | அண்ணல், ஆள்  |
| 4        | 𐏇     | natt-an               | 3638             | country man                                   | நாட்டான்     |
| 5        | 𐏈     | natt-ar-an            | 3638             | country rules                                 | நாட்டாரன்    |
| 6        | 𐏉     | aṇ                    | 2115             | clever man                                    | கொம்பன்      |
| 7        | 𐏊     | val(i)-an             | 5276             | skilled man                                   | வலியன்       |
| 162      | 𐏋     | vēl, vēl              | 5545, 5536       | chief, spear, trident                         | வேல்         |
| 8        | 𐏌     | vēlan, vēṭan          | 5545, 5368, 5527 | chief, lance fighter, hunter                  | வேலன், வேடன் |
| 9        | 𐏍     | valai-vēlan, valaiyan | 5288             | animal trapper                                | வலையன்       |
| 12       | 𐏎     | uṇavan                | 688              | farmer                                        | உழவன்        |
| 13       | 𐏏     | uṇavāl                | 688              | farm worker                                   | உழவாள்       |
| 14       | 𐏐     | pēr-uṇavan            | 688              | big farmer                                    | பேர் உழவன்   |

| M77 Sign | Glyph | Syllable             | DED                | Description                                       | Tamil                          |
|----------|-------|----------------------|--------------------|---------------------------------------------------|--------------------------------|
| 15       | 𑌵     | uṛavūr               | 688                | working, farming town                             | உழவூர்                         |
| 37       | 𑌶     | valaiyan             | 5288               | Trapper, fisherman                                | வலையன்                         |
| 41       | 𑌷     | kīṛān                | 1621               | poor                                              | கீழான்                         |
| 42       | 𑌸     | pallan               | 3986a              | mahout                                            | பல்ல(வ)ன்                      |
| 54       | 𑌹     | pu                   | 4345               | flower, insect, flourish, bloom, create           | பூ (பூச்சி)                    |
| 55       | 𑌺     | pol                  | 4550               | flowering, flourishing, blooming, creating        | பொலி, பொலிவு                   |
| 374      | 𑌻     | -n                   | 1159b, 3621, 3621a | night, bug                                        | நீர் (துளி), (ப)னி, நள், நல்லு |
| 410      | 𑌼     | ñāṇ, nān             | 2908, 3639         | string, me                                        | நாண், நான்                     |
| 415      | 𑌽     | nānnan               | 2908, 3639         | twiner                                            | நாணன்                          |
| 417      | 𑌾     | nalnelāl             | -                  | good farmer                                       | நல்நெல்லார்                    |
| 412      | 𑌿     | nāṅkuṛu              | 2906               | earthworm                                         | நாண்குழு                       |
| 186      | 𑍀     | kūru, kuru           | 1924, 1921, 1782   | section/ division/share, to proclaim, brilliant   | கூறு                           |
| 299      | 𑍁     | ida, idai            | 449                | hip, left                                         | இட-, இடை                       |
| 301      | 𑍂     | idayan               | 450                | herder, herdsman                                  | இடையன்                         |
| 287      | 𑍃     | vala-, vaḷai         | 5313, 5314, 5288   | bent, trap, right, net                            | வல, வள, வலை, வளை               |
| 298      | 𑍄     | valaicci, valaiyacci | 5288               | surround, trap, hunter                            | வளைச்சி, வலையச்சி              |
| 293      | 𑍅     | valaiyan             | 5288               | animal trapper (short form)                       | வலை வேலன், வலையன்              |
| 303      | 𑍆     | iṭa, iṭavai          | 432, 434           | narrow way                                        | இட, இடவை                       |
| 187      | 𑍇     | kutai-kuru           | 1714               | notch at end of bow                               | குதைகூரு                       |
| 312      | 𑍈     | kuṭi, kuṭai          | 1655, 1660         | house, family, lineage, hollow, cavity, penetrate | குடி, குடை                     |
| 313      | 𑍉     | kuṭir                | 1655               | house, family                                     | குடிர்                         |
| 314      | 𑍊     | kuṭima               | 1655               | house, family                                     | குடிம                          |
| 315      | 𑍋     | kuṭi-ēru             | 1655               | immigration                                       | குடிஏறு                        |
| 393      | 𑍌     | pallar-kuṭi          | 1655               | mahout hamlet                                     | பல்லர்குடி                     |
| 328      | 𑍍     | vu                   | 651, 761           | ooze, mortar                                      | வ, உ, ஊ                        |

| M77 Sign | Glyph                                                                       | Syllable                     | DED                    | Description                                                 | Tamil                   |
|----------|-----------------------------------------------------------------------------|------------------------------|------------------------|-------------------------------------------------------------|-------------------------|
| ?        | ᱵ                                                                           | vala, vala                   | 5304                   | strong, fertile                                             | வல-, வள-                |
| 32       | ᱵᱤ                                                                          | uvan                         |                        | person between two                                          | உவன்                    |
| 330      | ᱵᱮ                                                                          | mūr                          | 5046                   | mature, ripe                                                | முழ்                    |
| 332      | ᱵᱷ                                                                          | vai                          | 5549-53                | to stay, straw of paddy, to abuse, sharp                    | வை                      |
| 336      | ᱵᱸ                                                                          | uṭaṇ, valaṇ                  | 945                    | with, consent, immediately                                  | உடன், வலண்              |
| 337      | ᱵᱹ                                                                          | uṭai                         | 593                    | wealthy                                                     | உடை                     |
| 342      | ᱵᱺ                                                                          | ūr (ural, uṛi)               | 752 (651, 708)         | town, village                                               | ஊர் (உரல், உறி)         |
| 347      | ᱵᱻ                                                                          | vēlūr                        | -                      | hunter's town                                               | வேலூர்                  |
| 358      | ᱵᱼ                                                                          | cevūr                        | -                      | bronze worker's town                                        | செவ்வூர்                |
| 344      | ᱵᱽ                                                                          | ūr-ar                        | -                      | important sign with clitics                                 | ஊரார்                   |
| 343      | ᱵ᱾                                                                          | ūr-il                        | -                      | important sign with clitics                                 | ஊரில்                   |
| 373      | ᱶ                                                                           | pa                           | 3805, 4016, 4124, 3884 | sun, pot                                                    | பகல், பள்ளம், பாணை, பண் |
| 375      | ᱶᱤ                                                                          | pal, pala                    | 3986a                  | teeth, many                                                 | பல், பல                 |
| 386      | ᱶᱮ                                                                          | poli, poḷi                   | 4550, 4560             | prosperous, chisel                                          | பொலி, பொளி              |
| 379      | ᱶᱯ                                                                          | pammu, pollam                | 3934, 4554             | to baste, to yarn, stitch, joining                          | பம்மல், பொல்லம்         |
| 391      | ᱶᱰ                                                                          | pallā                        | 3986a, 1045            | elephant                                                    | பல்லா (யானை)            |
|          | Depicted by the ornamental oval-shaped plate that is fixed on it's forehead |                              |                        |                                                             |                         |
| 392      | ᱶᱱ                                                                          | nal-pallar (nalla-palla-iru) | -                      | good mahout                                                 | நல் பல்லர்              |
| 403      | ᱶᱲ                                                                          | parai, par <u>r</u> u        | 4031, 4032, 4034       | announcement (sale) with a drum beat                        | பறை, பற்று              |
| 407      | ᱶᱳ                                                                          | pulam                        | 4303                   | arable land                                                 | புலம்                   |
| 406      | ᱶᱴ                                                                          | paḷapaḷa                     | 4012                   | glittering, well-oiled                                      | பளப்பள                  |
| 404      | ᱶᱵ                                                                          | nal-parai                    |                        | good announcement                                           | நல்ல பறை                |
| 387      | ᱶᱶ                                                                          | vēlappa                      |                        | worker, hunter                                              | வேலப்பன்                |
| 389      | ᱶᱷ                                                                          | pañ-nilam                    | 3837                   | ploughed land                                               | பண்ணிலம்                |
| 254      | ᱶᱸ                                                                          | paṭi, paṭṭi                  | 3848, 3850, 3868       | hamlet, village, settlement, rest, roost, step gradee, rank | படி, பட்டி              |
| 216      | ᱶᱹ                                                                          | tan, tān                     | 2946, 3188,            | earthen pot                                                 | தன், தண் (தண்டி),       |

| M77 Sign | Glyph | Syllable                    | DED                           | Description                                            | Tamil                                 |
|----------|-------|-----------------------------|-------------------------------|--------------------------------------------------------|---------------------------------------|
|          |       |                             | 3110                          |                                                        | தவளை                                  |
| 217      | 𑌕𑌕    | toṭaḷ, toṭu, toṭu           | 3480, 3482                    | touch, begin, join, to wear, dress-up                  | தொடல், தொடு                           |
| 53       | 𑌕     | tāvu                        | 3177                          | jump, luxuriant, tread gently                          | தாவு, தவளை                            |
| 222      | 𑌕     | tal, tol                    | 3123, 3105, 3516              | obstruct, stop beat, crush, old, ancient               | தள், தொள்                             |
| 223      | 𑌕     | mumuta                      | -                             | grand-parent                                           | மும்முத                               |
| 229      | 𑌕     | taṛ, tāṛi                   | 3178                          | bow down                                               | தாழு, தாழி                            |
| 36       | 𑌕     | tan                         | 3045                          | cold, water                                            | தண் (தண்ணீர்)                         |
| ?        | 𑌕     | pān                         | 4068                          | song, melody                                           | பாண்                                  |
| 396      | 𑌕     | pāṇaḷ                       | 4071                          | rice-field                                             | பாணல்                                 |
| 31       | 𑌕     | pāṇan                       | 4068                          | tamil bard                                             | பாணன், பாடுபவன்                       |
| 59       | 𑌕     | kaṇ, kanni                  | 1159a, 1166, 1168, 1417, 1483 | bamboo raft, trap, trapper                             | கண், கன்னி                            |
| 60       | 𑌕     | nalla-kanni                 | -                             | good vehicle, good trapper                             | நல்ல கன்னி                            |
| 67       | 𑌕     | konda, kōnda, gōnde         | 2053, 2216                    | bull, with                                             | கொடு (கொண்டு), கோண்டே, கொண்டே, கொண் ட |
| 72       | 𑌕     | kōḷ                         | 2238                          | boat, raft                                             | கோல்                                  |
| 70       | 𑌕     | kāl                         | 1483                          | cart                                                   | கால்                                  |
| 65       | 𑌕     | peru-kanni                  |                               | big boat, big cart                                     | பெருங்கன்னி                           |
| 75       | 𑌕     | peru-kaṇai                  | 1404                          | intense, abundance                                     | பெருங்கனாய்                           |
| 69       | 𑌕     | kaṇṇaḷ                      | 1305, 1415                    | vessel, ship                                           | கண்ணல்                                |
| 66       | 𑌕     | naḷ-peru-kanni              | -                             | great good gentleman                                   | நல்பெருங்கன்னி                        |
| 66       | 𑌕     | naḷ-peru-kanni              | -                             | great good gentleman                                   | நல்பெருங்கன்னி                        |
| 58       | 𑌕     | muttu                       | 4959, 4932, 4957              | pearl, excellent, praiseworthy                         | முத்து                                |
| 78       | 𑌕     | pori, puri, purā, puṛa, pūr | 4286, 4334, 4374, 4603        | courage, pride, chicken, pigeon, dove, quail, pheasant | புரி, பொரி, புறா,                     |
| 77       | 𑌕     | paraṇ-                      | 4020                          | bird farming, sustainer                                | பரண்- (பறந்தூர்)                      |
| 79       | 𑌕     | cuṭṭi-paraṇ                 | 2655-4020                     | crested pheasant                                       | சுட்டி பரண்- (பறந்தூர்)               |



| M77 Sign                                                                                                                                                           | Glyph | Syllable              | DED                    | Description                                                                                    | Tamil                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------|------------------------|------------------------------------------------------------------------------------------------|---------------------------|
| 80                                                                                                                                                                 | 𑌕     | paraparaṇ             | 3949                   | bird farming, pigeon messenger?                                                                | பறப்பரன்                  |
| 81                                                                                                                                                                 | 𑌖     | valai-pori            | -                      | trapping bird                                                                                  | வலைபொரி                   |
| 319                                                                                                                                                                | 𑌗     | muri, muṛi            | 4977, 5010, 5008       | twist, twine, tender leaf, shoot, sprout, break, perish                                        | முரி, முறி, முருக்கு      |
| 134                                                                                                                                                                | 𑌘     | peru, pēr             | 4411                   | big, large                                                                                     | பெரு, பேர்-               |
| 204                                                                                                                                                                | 𑌙     | perum                 | -                      | large                                                                                          | பெரும்                    |
| 209                                                                                                                                                                | 𑌚     | peru-mutal            | -                      | large primary                                                                                  | பெருமுதல்                 |
| 210                                                                                                                                                                | 𑌛     | perum-mutal           | -                      | large primary                                                                                  | பெரும்முதல்               |
| 206                                                                                                                                                                | 𑌜     | mu-perum              |                        | mature large primary                                                                           | முப்பெரும்                |
| 205                                                                                                                                                                | 𑌝     | nāl-kompu, nāmpu      | 2115, 3649             | good clever, sprout of millet                                                                  | நால்கொம்பு, நாம்பு        |
| 261                                                                                                                                                                | 𑌞     | kō                    | 2177, 2178             | mountain, gentry                                                                               | கோ, கோட்டை                |
| Origin of the word “kō” could be the Gond people (gōnde, DED 2216) of the mountains, reinforced by the West wind, from western practice of having kings in Sumeria |       |                       |                        |                                                                                                |                           |
| 30                                                                                                                                                                 | 𑌟     | kōvan                 |                        | herder, herdsman, gentry                                                                       | கோவன்                     |
| Cattle class that eventually becomes the ruling gentry                                                                                                             |       |                       |                        |                                                                                                |                           |
| 267                                                                                                                                                                | 𑌠     | kōṭṭa, kōṭu           | 2207, 2053, 2203, 2200 | gift, munificence, fort, gentry (west wind, western practice of having kings in Sumeria), horn | கொட, கொட்ட, கொடு, கொம்பன் |
| 272                                                                                                                                                                | 𑌡     | kōṭai, kōṭai          | 2207, 2049             | fort, gift                                                                                     | கோட்டை                    |
| 271                                                                                                                                                                | 𑌢     | kōṭṭam                | 2058                   | cattle-shed                                                                                    | கோட்டம்                   |
| 244                                                                                                                                                                | 𑌣     | aru, ārru, arai, araṇ | 317, 407, 322, 201     | strong, dwellment, camp, room, castle                                                          | அறு, ஆறு, அறை, அரண்       |
| 242                                                                                                                                                                | 𑌤     | māṭi, māṭu            | 4796a, 4798            | mansion, terrace, ox                                                                           | மாடி, மாடு                |
| 197                                                                                                                                                                | 𑌥     | mē, mēṭu, mettai      | 5086, 5058, 5069       | top, terrace                                                                                   | மேல், மெத்தை              |
| 198                                                                                                                                                                | 𑌦     | mē-mu                 | 5086                   | higher maturity                                                                                | மேழு                      |
| 199                                                                                                                                                                | 𑌧     | mē-vēl                | 5086                   | excellent hunter                                                                               | மேவேல்                    |

| M77 Sign | Glyph | Syllable                         | DED              | Description                                | Tamil                            |
|----------|-------|----------------------------------|------------------|--------------------------------------------|----------------------------------|
| 200      | 𑌕     | nal-mē                           | 5086             | good excellence                            | நல்மே                            |
| 402      | 𑌕     | nāṭu                             | 3638             | country (as a contrast to forest)          | நாடு                             |
| 245      | 𑌕     | tatti, taṭṭu, taṭṭāṇ             | 3036, 3039       | cloth, wooden frame, hammer, tap           | தட்டி, தட்டு, தட்டான்            |
| 296      | 𑌕     | vaṛi                             | 5297             | way                                        | வழி                              |
| 149      | 𑌕     | nālvaṛi                          | 5297             | cross-road                                 | நால்வழி                          |
| 297      | 𑌕     | aruvaṛi                          | 5297             | six-way crossing                           | அறுவழி, ஆறுவழி                   |
| 135      | 𑌕     | peruvaṛi                         | 5297             | big way                                    | பெருவழி                          |
| 136      | 𑌕     | aim perumvaṛi                    | 5297             | five big way                               | ஐம் பெருவழி                      |
| 153      | ↑     | poruḷ, poraḷ, poril              | 4544, 4555, 4558 | object/goods, town, earth/country/district | பொருள், பொறல், பொறில்            |
| 155      | 𑌕     | ampi                             | 177              | boat, raft, ship                           | அம்பி                            |
| 211      | ↑     | anuppu (ampu)                    | 329 (178)        | send                                       | அனுப்பு, அன்பு                   |
| 83       | 𑌕     | iṛakkam, iṛappu, iṛakkam, iṛappu | 501, 514         | death                                      | இழக்கம், இழப்பு, இறக்கம், இறப்பு |
| 50       | 𑌕     | āṭu                              | 5152             | goat                                       | ஆத்து, ஆடு                       |
| 124      | 𑌕     | ēr                               | 2815             | plough                                     | ஏர்                              |
| 125      | 𑌕     | eru                              | 863              | full, strong                               | எறு                              |
| 126      | 𑌕     | cēr                              | 2814             | join, unite, mingle                        | சேர்                             |
| 161      | 𑌕     | vilaku                           | 5423             | diverge                                    | விலகு                            |
| 137      | 𑌕     | cēri                             | 2007             | village street, assemblage, hamlet         | சேரி                             |
| 138      | 𑌕     | perum-cēri                       | 207              | big assemblage                             | பெரும் சேரி                      |
| 139      | 𑌕     | mēl-cēri                         | 207              | high assemblage                            | மேல் சேரி                        |
| 140      | 𑌕     | nal-iru-cēri                     | -                | good, strong assemblage                    | நல்லிருச்சேரி                    |
| 141      | 𑌕     | cēri-vaṛi                        | -                | road to assemblage                         | சேரிவழி                          |
| 142      | 𑌕     | cēri-vaṛi-anjih                  |                  | road to assemblage resting place           | சேரிவழிவஞ்சி                     |
| 47       | 𑌕     | arana, araṇai                    | 203, 204         | gift, squink, law-abiding, just            | அறண், அரணை                       |
| 48       | 𑌕     | nal-aran, aran-nal-              | -                | good behavior,                             | நல் அறன், அறநல்-                 |

| M77 Sign | Glyph                    | Syllable                       | DED                    | Description                                           | Tamil                         |
|----------|--------------------------|--------------------------------|------------------------|-------------------------------------------------------|-------------------------------|
|          |                          |                                |                        | good gifter                                           |                               |
| 113      | (𑌵𑌶𑌷𑌸)                   | viḷai-ñālam                    | 5437, 2913             | fertile land                                          | விளை நாலம்                    |
| 415      | 𑌵𑌶                       | mu-pala                        | 7-                     | important many                                        | முப்பல                        |
| 171      | 𑌵𑌶𑌷                      | nil-(v)anji, nilai             | -                      | stable                                                | நில்வஞ்சி, நிலை               |
| ?        | 𑌵𑌶𑌷𑌸                     | nal-inai, nāl-inai             | -                      | good joining, joining four                            | நல்லிணை, நாலிணை               |
| 49       | 𑌵𑌶𑌷𑌸𑌵                    | mu-kula                        | 1829                   | generation, geneology                                 | முக்குல-                      |
| 51       | 𑌵𑌶𑌷𑌸𑌵𑌶                   | māru, māran, mu-kula-iru-māran | 4834                   | reliable third generation barter (showing one's back) | மாறன், முக்குல-இருவழி-மாறன்   |
| 302      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷                  | mār̥ral                        | 4834                   | exchange                                              | மாற்றல்                       |
| 129      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸                 | koḷ                            | 2151                   | seize, acquire                                        | கொள்                          |
| 130      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵                | koḷal                          | 2151                   | exchange, buy/sell                                    | கொள்ளல், கொள்முதல்            |
| 148      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶               | cērukoḷ                        | 5297, 2151             | exchange, buy/sell                                    | சேர்ந்துகொள்                  |
| 237      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷              | mutal                          | 4951                   | base, foot, stump                                     | முதல்                         |
| 238      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸             | mutal-vaṛi                     | 4951                   | eminent way                                           | முதல்வழி                      |
| 239      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵            | mutal-ciṛa                     | 4951, 2589             | first eminent                                         | முதல் சிற                     |
| 304      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶           | vil, viḷ                       | 5422, 5421, 5432, 5433 | bow, call out, sell                                   | வில்                          |
| 305      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷          | viḷai                          | 5437                   | productive, mature                                    | விளை                          |
| 127      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸         | alaku, alanku, aṛagu           | 239, 240, 246, 255     | beak, beauty, grains of paddy                         | அலகு, அழகு                    |
| 306      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵        | aṛaku-ṽilam                    | -                      | good home                                             | அழகு ஊஇல்லம்                  |
| 307      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶       | viḷampu                        | 5433, 5434             | proclaim openly, serve food                           | விளம்பு                       |
| 17       | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷      | villavaṇ                       | 5422                   | archer                                                | வில்லவன்                      |
| 28       | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸     | viḷampan                       | 5434                   | one who superintends the distribution                 | விளம்பன்                      |
| 310      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵    | vila-vila                      | 5424                   | tremble with fear                                     | விலவில                        |
| 397      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶   | aṇi, aṇiyal, maṇi-             | 116, 4672              | jewel, pearl necklace                                 | அணி, அணியல், மணி, முத்து மாலை |
| 398      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷  | peru-aṇi(yal)                  | 116                    | big pearl necklace                                    | பெரு அணி                      |
| 377      | 𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸𑌵𑌶𑌷𑌸 | nal-aṇi-pala                   | -                      | many good                                             | நல் அணி பல                    |

| M77 Sign | Glyph | Syllable              | DED                    | Description                                     | Tamil                          |
|----------|-------|-----------------------|------------------------|-------------------------------------------------|--------------------------------|
|          |       |                       |                        | pearl necklaces                                 |                                |
| 233      | 𑌛     | mumalai               | -                      | three mountain range                            | மும்மலை                        |
| 235      | 𑌛     | mumalai-vēl           | -                      | three mountain hunter                           | மும்மலை வேல்                   |
| 180      | 𑌛     | koṭṭu, koṭṭam         | 2063, 2064, 2066       | pour, sting                                     | கொட்டு (தேன்), கொட்டம்         |
| 181      | 𑌛     | koṭṭu                 | 2063, 2064             | pour, sting                                     | கொட்டு                         |
| 169      | 𑌛     | nilam                 | 3676                   | land, ricefield                                 | நிலம்                          |
| 171      | 𑌛     | nilai                 | 3675                   | firm, stable                                    | நிலை                           |
| 173      | 𑌛     | irunilai              | 3675                   | very firm, stable                               | இருநிலை                        |
| 174      | 𑌛     | iru-nilam             | 481, 3676              | great/vast land                                 | இருநிலம்                       |
| 88       | 𑌛     | nal-iru               | 3610, 480              | fine life                                       | நல்லிரு                        |
| 176      | 𑌛     | vanjī, anjih, añcal   | 5265, 56, 54           | paddy, rice, to take on shoulder, resting place | வஞ்சி, அஞ்சி, அஞ்சல்           |
| 166      | 𑌛     | vēl-vanjī             | -                      | hunter's lair                                   | வேல்வஞ்சி                      |
| 249      | 𑌛     | māṭṭu                 | 4801, 4802             | fasten, put in, fasten, hook, kindle, fire      | மாட்டு                         |
| 253      | 𑌛     | māṭṭal                | 4802                   | necklace                                        | மாட்டல்                        |
| 252      | 𑌛     | mārram (māṭṭu + mu)   | 4834                   | exchange, barter                                | மாற்றம்                        |
| 182      | 𑌛     | iṭa-vaṛi-er           | 432/434, 3419, 903     | guide, conduct, conduit                         | இடவழியேர்                      |
| 178      | 𑌛     | kalappai, kalam       | 1304                   | plough, vessel, ship                            | கலப்பை, கலம்                   |
| 323      | 𑌛     | il, ila               | 494, 497               | non-existence, leaf                             | இல                             |
| 325      | 𑌛     | ila                   | 497                    | leaf                                            | இல                             |
| 326      | 𑌛     | ilai, ilai            | 497, 496, 513          | leaf, young                                     | இலை, இலஞ்சி                    |
| 327      | 𑌛     | iḷavaṛian, iḷaivaṛian | -                      | horticulturalist?                               | இலைவழியான்                     |
| 76       | 𑌛     | cē, cēval             | 1931, 2818             | red, bronze, cock                               | சே, செம்மை, சேவல்              |
| 311      | 𑌛     | yār, eṛil             | 5156                   | harp, music, beauty                             | யாழ், எழில், இசை               |
| 400      | 𑌛     | nuṛan                 | 3714, 3715             | penetrate, stitch                               | நுழ்-, நுழன், நுழம்பு, நுளம்பு |
| 219      | 𑌛     | tai (ta + kaccai)     | 3473                   | sew, stitch                                     | தை                             |
| 214      | 𑌛     | irutai                | 481, 3473              | strong stitch, good tailor                      | இருதை                          |
| ?        | 𑌛     | cī, cīpu, cil, calli  | 2599, 2622, 1577, 2382 | cleanse, wooden peg, splinter                   | சீ, சிப்பு, சில்               |

| M77 Sign | Glyph | Syllable                | DED        | Description                               | Tamil                     |
|----------|-------|-------------------------|------------|-------------------------------------------|---------------------------|
| 240      | ◻     | cil                     | 1577       | small                                     | சில்                      |
| 241      | ◈     | cira                    | 2589       | eminent, illustrious                      | சிற-                      |
| 381      | ◉     | cirappu                 | 2589       | eminent, illustrious                      | சிறப்பு                   |
| 256      | ⚖     | nērcira                 | 3772       | just and eminent                          | நேர்சிற                   |
| 266      | ⚖     | nērcira-kō              | 2177       | just and eminent leader                   | நேர்சிற கோ                |
| 215      | 🐆     | ciruttai                | 2590       | panther                                   | சிறுத்தை                  |
| 258      | ⚖     | cīrmai                  | 2624       | excellence, greatness                     | சீர்மை                    |
| 257      | ⚖     | cutti, cuttiyal         | 2668       | small hammer                              | சுத்தி, சுத்தியல்         |
| 259      | ⚖     | cutti, cuttiyal         | 2668       | small hammer                              | சுத்தி, சுத்தியல்         |
| 192      | 🏠     | paḷli                   | 4018       | hamlet, herdsman's village                | பள்ளி                     |
| 193      | 🐅     | perum-puli              | 4307, 4411 | big tiger                                 | பெரும்புலி                |
| 321      | 🎊     | ñāṇ                     | 2908       | marriage string, necklace                 | நாண்                      |
| 322      | 🌾     | nēññil                  | 2907       | plogh-shaft                               | நென்னில்                  |
| 367      | 🧶     | nānan                   | 2908       | yarn maker                                | நாணன்                     |
| 82       | 📦     | tarupu                  | 3142, 3169 | to join together, amass (wealth)          | தறுப்பு (தாரா - வாத்து)   |
| 247      | 📦     | ciḷ-eṇal, ciḷu-ciḷ-eṇal | 2588       | noisy, bubbly                             | சிள்-எணல், சிளு-சிள்-எணல் |
| 341      | 🌾     | uṟu                     | 689        | harrow                                    | உழு (பரப்பு, பரம்பு)      |
| 177      | 👤     | nal-mutal, nalāl        | -          | good chief, good worker, hard worker      | நல்முதல், நல்லாள்         |
| 409      | 👤     | nan-nil                 | 3588       | good standing                             | நன்னில்                   |
| 365      | 🌸     | viri                    | 5411       | spread, expand, blossom                   | விரி                      |
| 190      | 🏕     | pāḷaiyam                | 4117       | army camp, village surrounded by hillocks | பாளையம்                   |
| 189      | 🌾     | toṭṭi, tōṭṭi            | 3485, 3547 | fence, rake                               | தொட்டி, தோட்டி            |
| 191      | 🛏     | toṭṭil                  | 3486       | cradle                                    | தொட்டில்                  |

| M77 Sign | Glyph | Syllable                          | DED        | Description                                            | Tamil                           |
|----------|-------|-----------------------------------|------------|--------------------------------------------------------|---------------------------------|
| 202      | 𑌕     | mēṭṭu, mēḍu, metta                | 5058, 5069 | height, eminence, hillock, upper storey, storied house | மேட்டு, மேடு, மெத்த             |
| 203      | 𑌖     | peru-mēṭṭu, peru-mēḍu, peru-metta | 5058, 5069 | height, eminence, hillock, upper storey, storied house | பெருமேட்டு, பெருமேடு, பெருமெத்த |
| 188      | 𑌗     | mett-eṇal                         | 5070       | gentleness                                             | பெத்தெனல்                       |
| 366      | 𑌘     | utaḷ                              | 610        | goat                                                   | உதல்                            |

## Signs and affixes

Just to give a flavor of the decipherment here we group few signs under base/affix geometry. In some cases there could be more than one affix.

### Sign ○

| Affix<br>Base |     |      |       |          |        | 𑌕         | ○    | ◊       | ○     | 𑌕      | -          |
|---------------|-----|------|-------|----------|--------|-----------|------|---------|-------|--------|------------|
| ○             | ①   | ②    | ③     | ④        | ⑤      | ⑥         | ⑦    | ⑧       | ⑨     | ⑩      | ⑪          |
| pa            | pal | para | pammu | nal-para | pallār | vēl-appa  | pān  | cirappu | pānal | pān-an | nal-pallar |
| பா            | பல் | பற   | பம்மு | நல்பற    | பல்லா  | வெல்-ப்பா | பான் | சிறப்பு | பானல் | பானன்  | நல்பல்லர்  |

### Sign U

| Affix<br>Base |     |     |      |     | ○    | ○    | 𑌕      | -        | 𑌕 𑌕 𑌕            |
|---------------|-----|-----|------|-----|------|------|--------|----------|------------------|
| U             | 𑌕   | 𑌖   | 𑌗    | 𑌘   | 𑌙    | 𑌚    | 𑌛      | 𑌜        | 𑌝                |
| ū             | vaḷ | ūr  | mūr  | vai | uṭaṇ | uṭai | vēlūr  | chevūr   | vēl-aṇi-nuraṇ-ūr |
| உ             | வள் | உர் | மூர் | வை  | உடன் | உடை  | வேலூர் | செவ்வூர் | வேலணிநுழுவூர்    |

### Sign ✕

| Affix<br>Base |     | ○   |     |        | 𑌕        |         | 𑌕    | -          | 𑌕   |
|---------------|-----|-----|-----|--------|----------|---------|------|------------|-----|
| ✕             | ✕   | ✕   | ✕   | ✕      | ✕        | ✕       | ✕    | ✕          | ✕   |
| ta            | taḷ | tan | tai | irutai | ciruttai | mumutai | tāri | todu, toṭu | tan |

|   |     |     |    |       |          |          |      |      |     |
|---|-----|-----|----|-------|----------|----------|------|------|-----|
| த | தள் | தன் | தை | இருதை | சிறுத்தை | மும்முதை | தாழி | தொடு | தன் |
|---|-----|-----|----|-------|----------|----------|------|------|-----|

## Sign ✎

| Affix<br>Base |      |      | ^           | ^          |                  |       |
|---------------|------|------|-------------|------------|------------------|-------|
| ✎             | ✎    | ✎    | ✎           | ✎          | ✎                | ✎     |
| kanni         | kāl  | kōl  | peru-kanni  | peru-kanai | kōnda, gōnde     | kalam |
| கன்னி         | கால் | கோல் | பெருங்கன்னி | பெருங்கணை  | கொண்ட,<br>கோண்டே | கலம்  |


## Sign ✎

| Affix<br>Base |     |        | -       | ✎        | -       | ^      |          | -            |
|---------------|-----|--------|---------|----------|---------|--------|----------|--------------|
| ✎             | ✎   | ✎✎     | ✎       | ✎        | ✎       | ✎      | ✎        | ✎            |
| an            | āl  | aṇṇaṇ  | kāvalan | naṭṭan   | uṇṇavan | kīṇṇān | mutalvan | nal-mutalvan |
| அன்           | ஆள் | அண்ணன் | காவலன்  | நாட்டான் | உழவன்   | கீழன்  | முதல்வன் | நல்முதல்வன்  |

## Sign ✎

| Affix<br>Base | ✎             |        |         | ✎              | ☐          | ☐             | ☐          |
|---------------|---------------|--------|---------|----------------|------------|---------------|------------|
| ✎             | ✎             | ☐      | ☐       | ✎              | ☐          | ☐             | ☐          |
| kō            | kōṭṭa, kōṭu   | kōṭai  | kōṭṭam  | nāl-vaṇi-kōṭai | nērcira-kō | pallar-kōṭṭa  | kōṭai-vaṇi |
| கோ            | கோட்ட, கொட்டு | கோட்டை | கோட்டம் | நல்வழி-கோட்டை  | நேர்சிற-கோ | பல்லர் கோட்டை | கோட்டை வழி |

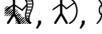



## Sign )

| Affix<br>Base | 180° | ◦        | ◦ 180°  | - 180° | 90°                                                                               | 270° |           |
|---------------|------|----------|---------|--------|-----------------------------------------------------------------------------------|------|-----------|
| )             | (    | )        | (       | )(     |  | U    | ))        |
| valai         | iṭai | valaiyan | iṭaiyan | iṭa    | kuṭa, kuṭai                                                                       | ū    | iru-valai |
| வலை           | இடை  | வலையன்   | இடையன்  | இட     | குடை                                                                              | ஊ    | இருவிளை   |

## Sign ◦

| Affix<br>Base |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | ≡                                                                                   |
|---------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| ◦             |  |  |  |  |  |  |  |  |  |
| -n            | nāṭu                                                                              | aṇiyal,<br>maṇi                                                                   | nullāṇ,<br>nuṇan                                                                  | ñāṇ                                                                               | nan                                                                               | nannu,<br>nannan                                                                  | nalnelāl                                                                            | nan-mutal                                                                           | nāṇkuṇu                                                                             |
| ன்            | நாடு                                                                              | அணியல்,<br>மணி                                                                    | நுளாண்,<br>நுழன்,<br>நுழம்பு                                                      | நாண்                                                                              | -னன்                                                                              | நன்னு,<br>நன்னன்                                                                  | நல்நெல்லாள்                                                                         | நன்முதல்                                                                            | நன்குழு                                                                             |



## Logo-synonyms

| M77 Signs    | Glyphs                                                                              | Syllable     | DED            | Description                 | Tamil         |
|--------------|-------------------------------------------------------------------------------------|--------------|----------------|-----------------------------|---------------|
| 37, 27, 293  |  | valaiyan     | 5288           | trapper                     | வலையன்        |
| 230, 233, 89 |  | mūmalai      | -              | triple mountain             | மூமலை         |
| *345         |  | mūmalai      | -              | triple mountain town        | மூமலையூர்     |
| 87, 124, 125 |  | iru, ēr, eru | 481, 2815, 863 | vast, plough, full/complete | இரு, ஏர், எறு |

\* - sometimes used as a short form of mūmalai in mūmalai-ūr.

## Common phrases

Here we list multiple logos (mostly pairs and triplets) that commonly occur together in IVC. We also list a few non-aglutinative entangled glyphs which we try to describe them as complex mixed states.

| M77 Signs | Glyph                                                                                                                                                          | Syllable | DED  | Description | Tamil                 |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|-------------|-----------------------|
| 321-336   |                                                                             | uṭaṇ-ñāṇ | 2908 | marriage    | உடன் நாண்<br>(உடன்தை) |
|           | Sign-336  also has ideographic mortar & pestle marriage association as well |          |      |             |                       |



| M77 Signs             | Glyph     | Syllable                           | DED        | Description                                | Tamil                               |
|-----------------------|-----------|------------------------------------|------------|--------------------------------------------|-------------------------------------|
| 176-321-336           | 𐌚𐌚𐌚       | uṭaṇ-ñāṇ-anjih                     | 2908       | marriage hall                              | உடன் நாண் அஞ்சி                     |
| 148                   | 𐌆 = 𐌚 + 𐌆 | marukoḷal, cērkoḷal                | 5297, 2151 | barter, exchange, buy/sell                 | மாறுகொளல், சேர்ந்துகொளல்            |
| 12-124                | 𐌆𐌚        | ēr-vuṛavan                         | -          | farmer                                     | ஏர் உழவன்                           |
| 169-124               | 𐌆𐌚        | ēr-nilam                           | -          | farm land                                  | ஏர் நிலம்                           |
| 113                   | (𐌚𐌚𐌚)     | viḷai-nallam                       | 5437-3613  | cultivable rich soil                       | விளை நல்லம்                         |
| 130-51                | 𐌆𐌚        | maru-koḷal, mukula-iru-māran-koḷal | -          | barter                                     | மாற்று கொள்                         |
| 402-267               | 𐌆𐌚        | koṭa-nāṭu                          | -          | herder country                             | கொட நாடு                            |
| 402-293               | 𐌆𐌚        | valaiyan-nāṭu                      | -          | trapper's country                          | வலையன் நாடு                         |
| 402-76                | 𐌆𐌚        | cē-nāṭu                            | -          | red country, bronze country                | சே நாடு                             |
| 67-65                 | 𐌆𐌚        | peru-kanni-kondu                   | -          | with big vehicle                           | பெருங்கன்னி கொண்டு                  |
| 70-67                 | 𐌆𐌚        | konda-kal                          | -          | bullock cart                               | கொண்டா கல், கோண்ட கல், மாட்டு வண்டி |
| 70-67-65              | 𐌆𐌚𐌚       | peru-konda-kal                     | -          | big bullock cart                           | பெரு கோண்ட கல், பெரு மாட்டு வண்டி   |
| 176-307-379           | 𐌚𐌚        | pammu-vilambu-anji                 | -          | bow stringer's resting place               | பம்மு வில்லம்பு அஞ்சி               |
| 402-379-319           | 𐌚𐌚        | mura-pammu-nadu                    | -          | yarn twisting country                      | முறபம்மு நாடு                       |
| 342-379-398           | 𐌚𐌚        | perum.aṇi-pammu-ūr                 | -          | big necklace maker's town                  | பெரும் அணி பம்முர்                  |
| 372 = 342+400+397+162 | 𐌚 = 𐌚𐌚𐌚   | vel-aṇi-nuṛan-ūr                   | -          | town with hunters, pearl and cloth workers | வேல்திரள்நுழனூர்                    |
| 194 = 342+400+397+162 | 𐌚 = 𐌚𐌚𐌚   | mu-iru-mēl-perul                   | -          | the mighty mēl-perul                       | மூவிரு மேல்பொருள்                   |
| 96-409                | 𐌚𐌚 𐌚      | nannilai (nannu-nil-ai)            | 3588       | amiable                                    | நன்னிலை                             |
| 94-409                | 𐌚𐌚 𐌚      | nanniral (nannu-                   | 3672,      | make orderly                               | நன்னிரல்                            |

| M77 Signs       | Glyph   | Syllable             | DED  | Description                       | Tamil            |
|-----------------|---------|----------------------|------|-----------------------------------|------------------|
|                 |         | niral)               | 3673 |                                   |                  |
| 99-350          | == 𐑦    | veḷḷāḷar             | 5507 | agriculturalist                   | வெள்ளாளர்        |
| 315-108         | 𐑦𐑦𐑦𐑦𐑦𐑦  | arū-kuṭi-ērū         |      | river flooding<br>houses          | ஆறு குடிஏறு      |
| 87-89           |         | muṛa                 | 5015 | custom                            | முற, முறை        |
| 319-101         | 𐑦!      | mutal-mutal-<br>muṛi | 5010 | first initial<br>tender leaf      | முதல் முதல் முறி |
| 342-403-<br>103 | 𐑦 𐑦𐑦 𐑦' | īral-para-ūr         | 553  | grief (death)<br>mesenger<br>town | ஈறல் பறையூர்     |