

Final Exam

PLEASE READ ALL DIRECTIONS CAREFULLY.

Due date is 3/20/21 at 10:00 a.m.; so you have 72 hours.
(It will not take you 72 hours.)

RULES FOR THIS EXAM

Honor Code

Please include a copy of this statement at the top of your answer and type your name below it.

“I affirm that the work on this exam is entirely my own and that I have obtained no help from other people; nor have I helped another student.”

About this exam

You may answer with your own word-processing document, or by adding to this one.

The exam is open-book, and you can consult whatever reference sources you like. The textbook and lecture notes (CCLE) include many models of what kind of answer we are looking for. Don't forget that many topics in a printed book can be found using the Index.

The exam is meant to cover various of the analytic skills taught in the course, using a large batch of data from one single fictional, language, to be called Finalese. The rules of Finalese phonology are made up, but correspond to real rules in various languages.¹

You can download a segment inventory for Finalese from the CCLE web site, Week 10. We suggest you use it to check your use of features in writing rules.

Although the Finalese data are presented below all at once, the exam is arranged as a series of separate questions.

1. Guidelines for forming your answers

- When selecting the forms you will use for derivations, try to locate *simple* cases that don't involve rules not relevant to the matter at hand.

¹ For instance: Seediq, English, Italian, Sanskrit, Portuguese, Polish.

- Be sure to check all uses of features in your rules using the Pheatures software.

2. Allophones of the rhotic phoneme

[r] and [ɾ] are allophones of the same underlying phoneme of Finlese. Perform a normal phonemic analysis of the kind taught in the course and included on the homeworks

We are deliberately making the question harder by not including the details of what “normal phonemic analysis” is — you’ve learned this in the course. Please refer to Chapters 2-3 of the text, the lecture handouts, and your completed homeworks. However, here are two particular specifications:

- You should include derivations that cover the various types of cases that arise (we suggest three.)
- The rule you write should include syllable structure, and the derivations should include syllabification, as in Chapter 13 of the text.

3. Stress

Write a stress rule for Finlese and illustrate it with two derivations. Follow the format of Chapter 14 of the text.

4. Vowel alternations

Finlese has multiple instances of the alternations [e] ~ [ə] and [o] ~ [ə]. These can be derived by rule. Figure out the needed rule and state it both formally and in words. Give underlying representations for all of the affixes, and for several stems (just a few; enough to make it clear how your analysis works). For each of these affixes and stems, list all of the allomorphs.

State whether your rule is a neutralization rule and explain why, giving an example.

I suspect this is the hardest question and I hereby offer a hint: to find the right UR’s, you must engage in *cobbling*; and you can review the concept of cobbling in the posted notes for Class 11, 2/10/21.

5. The status of palato-alveolars

The data include minimal pairs for alveolars vs. palato-alveolars, as follows:

- | | | |
|---------|------------|--------------------------------|
| (29) b. | [tʃəkáfaŋ] | ‘brother-accusative sg.’ |
| (29) b. | [təkáfaŋ] | ‘grandfather-accusative sg.’ |
| (32) b. | [dʒəmísaŋ] | ‘tax collector-accusative sg.’ |
| (34) b. | [dəmísaŋ] | ‘milkmaid-accusative sg.’ |
| (39) a. | [jáʃəb] | ‘bed-nominative sg.’ |

(40) a. [jásəb] ‘table-nominative sg.’

In spite of this, Phonologist X makes the following statement:

“In Finalese, the sounds [tʃ], [dʒ], and [ʃ] do not occur in underlying representations, but are always derived by rule.”

Your task is to back up the claim made by X with analysis. State the phonological analysis that is needed, and illustrate your analysis by deriving examples (28a), (28b), (29a), and (29b).

To help out, we have collected the right-side local environments for the sounds [t d s tʃ dʒ ʃ]. They are as follows:

t	d	s	tʃ	dʒ	ʃ
___ ə	___ ə	___ ə	___ ə	___ ə	___ ə
___ a	___ a	___ a	___ é	___ é	___ é
___ á	___ á	___ á	___ i	___ i	___ i
___ ó	___ ó	___ ó	___ í	___ í	___ í
___ u	___ u	___ u			
___ ú	___ ú	___ ú			
___ f	___ b	___ f			
___ k	___ g	___ k			
___ n	___ k	___ n			
___ ŋ	___ m	___ θ			
___ p	___ ʃ	___ ʃ			
___ w					
___ ʃ					

As you can see, there is only a limited amount of overlap, and this occurs for a reason ...

6. Rule ordering

Prove all of the rule orderings in your analysis in the usual way (right vs. wrong derivations). Classify each ordering argument in the standard way (feeding, bleeding, counterfeeding, counterbleeding).

7. Doing the morphology

State (with names) the rules of affixation that assemble the words of the problem, and give their necessary order. Refer to the theory of inflectional morphology in Chapter 5 of the text.

THE DATA

Note: Stress is recorded with a (non-IPA) acute accent for legibility.

- (1) a. [dʒíp] ‘apple-nominative sg.’
 b. [dʒípaŋ] ‘apple-accusative sg.’
 c. [dʒípkəp] ‘apple-dative sg.’
 d. [dʒípəs] ‘apple-genitive sg.’
 e. [dʒípar] ‘apple-nominative plur.’
 f. [dʒipáŋar] ‘apple-accusative plur.’
 g. [dʒípképar] ‘apple-dative plur.’
 h. [dʒípósar] ‘apple-genitive plur.’
- (2) a. [dúp] ‘pear-nominative sg.’
 b. [dúpaŋ] ‘pear-accusative sg.’
 c. [dúpkəp] ‘pear-dative sg.’
 d. [dúpəs] ‘pear-genitive sg.’
 e. [dúpar] ‘pear-nominative plur.’
 f. [dupáŋar] ‘pear-accusative plur.’
 g. [dupképar] ‘pear-dative plur.’
 h. [dupósar] ‘pear-genitive plur.’
- (3) a. [bák] ‘tree-nominative sg.’
 b. [bákaŋ] ‘tree-accusative sg.’
 c. [bákkəp] ‘tree-dative sg.’
 d. [bákəs] ‘tree-genitive sg.’
 e. [bákar] ‘tree-nominative plur.’
 f. [bakáŋar] ‘tree-accusative plur.’
 g. [bakképar] ‘tree-dative plur.’
 h. [bakósar] ‘tree-genitive plur.’
- (4) a. [fén] ‘barn-nominative sg.’
 b. [fénaŋ] ‘barn-accusative sg.’
 c. [fénkəp] ‘barn-dative sg.’
 d. [fénəs] ‘barn-genitive sg.’
 e. [fénar] ‘barn-nominative plur.’
 f. [fənáŋar] ‘barn-accusative plur.’
 g. [fənképar] ‘barn-dative plur.’
 h. [fənósar] ‘barn-genitive plur.’
- (5) a. [méf] ‘meadow-nominative sg.’
 b. [méfaŋ] ‘meadow-accusative sg.’
 c. [méfəkəp] ‘meadow-dative sg.’
 d. [méfəs] ‘meadow-genitive sg.’
 e. [mэфar] ‘meadow-nominative plur.’
 f. [məfáŋar] ‘meadow-accusative plur.’
 g. [məfképar] ‘meadow-dative plur.’
 h. [məfósar] ‘meadow-genitive plur.’

- (6) a. [tóf] ‘copse-nominative sg.’
 b. [tófaŋ] ‘copse-accusative sg.’
 c. [tófkəp] ‘copse-dative sg.’
 d. [tófəs] ‘copse-genitive sg.’
 e. [tófar] ‘copse-nominative plur.’
 f. [təfáŋar] ‘copse-accusative plur.’
 g. [təfképar] ‘copse-dative plur.’
 h. [təfósar] ‘copse-genitive plur.’
- (7) a. [píɪ] ‘cow-nominative sg.’
 b. [píraŋ] ‘cow-accusative sg.’
 c. [píɪkəp] ‘cow-dative sg.’
 d. [pírəs] ‘cow-genitive sg.’
 e. [pírar] ‘cow-nominative plur.’
 f. [píráŋar] ‘cow-accusative plur.’
 g. [pírképar] ‘cow-dative plur.’
 h. [pírósar] ‘cow-genitive plur.’
- (8) a. [féɪ] ‘pig-nominative sg.’
 b. [féraŋ] ‘pig-accusative sg.’
 c. [féɪkəp] ‘pig-dative sg.’
 d. [férəs] ‘pig-genitive sg.’
 e. [férar] ‘pig-nominative plur.’
 f. [fəráŋar] ‘pig-accusative plur.’
 g. [fərképar] ‘pig-dative plur.’
 h. [fərósar] ‘pig-genitive plur.’
- (9) a. [sóɪ] ‘horse-nominative sg.’
 b. [sóraŋ] ‘horse-accusative sg.’
 c. [sóɪkəp] ‘horse-dative sg.’
 d. [sórəs] ‘horse-genitive sg.’
 e. [sórar] ‘horse-nominative plur.’
 f. [səráŋar] ‘horse-accusative plur.’
 g. [sərképar] ‘horse-dative plur.’
 h. [sərósar] ‘horse-genitive plur.’
- (10) a. [lóɪ] ‘sheep-nominative sg.’
 b. [lóraŋ] ‘sheep-accusative sg.’
 c. [lóɪkəp] ‘sheep-dative sg.’
 d. [lórəs] ‘sheep-genitive sg.’
 e. [lórar] ‘sheep-nominative plur.’
 f. [ləráŋar] ‘sheep-accusative plur.’
 g. [lərképar] ‘sheep-dative plur.’
 h. [lərósar] ‘sheep-genitive plur.’
- (11) a. [múɪ] ‘chicken-nominative sg.’

- b. [múraŋ] ‘chicken-accusative sg.’
 c. [múrkəp] ‘chicken-dative sg.’
 d. [múrəs] ‘chicken-genitive sg.’
 e. [múrar] ‘chicken-nominative plur.’
 f. [muráŋar] ‘chicken-accusative plur.’
 g. [murképar] ‘chicken-dative plur.’
 h. [murósar] ‘chicken-genitive plur.’
- (12) a. [bífat] ‘goose-nominative sg.’
 b. [bífatəŋ] ‘goose-accusative sg.’
 c. [bífatkəp] ‘goose-dative sg.’
 d. [bífatəs] ‘goose-genitive sg.’
 e. [bífatar] ‘goose-nominative plur.’
 f. [bífatəŋar] ‘goose-accusative plur.’
 g. [bífatképar] ‘goose-dative plur.’
 h. [bífatósar] ‘goose-genitive plur.’
- (13) a. [lúkip] ‘lamb-nominative sg.’
 b. [lukípaŋ] ‘lamb-accusative sg.’
 c. [lukípkəp] ‘lamb-dative sg.’
 d. [lukípəs] ‘lamb-genitive sg.’
 e. [lukípar] ‘lamb-nominative plur.’
 f. [lukípaŋar] ‘lamb-accusative plur.’
 g. [lukípképar] ‘lamb-dative plur.’
 h. [lukípósar] ‘lamb-genitive plur.’
- (14) a. [θágup] ‘duck-nominative sg.’
 b. [θagúpaŋ] ‘duck-accusative sg.’
 c. [θagúpkəp] ‘duck-dative sg.’
 d. [θagúpəs] ‘duck-genitive sg.’
 e. [θagúpar] ‘duck-nominative plur.’
 f. [θagupáŋar] ‘duck-accusative plur.’
 g. [θagupképar] ‘duck-dative plur.’
 h. [θagupósar] ‘duck-genitive plur.’
- (15) a. [ɲélas] ‘plow-nominative sg.’
 b. [ɲəlásaŋ] ‘plow-accusative sg.’
 c. [ɲəláskəp] ‘plow-dative sg.’
 d. [ɲəlásəs] ‘plow-genitive sg.’
 e. [ɲəlásar] ‘plow-nominative plur.’
 f. [ɲəlásaŋar] ‘plow-accusative plur.’
 g. [ɲəlasképar] ‘plow-dative plur.’
 h. [ɲəlásósar] ‘plow-genitive plur.’
- (16) a. [tʃépuk] ‘rake-nominative sg.’
 b. [tʃəpúkaŋ] ‘rake-accusative sg.’

- c. [tʃəpúkəkəp] 'rake-dative sg.'
 d. [tʃəpúkəs] 'rake-genitive sg.'
 e. [tʃəpúkar] 'rake-nominative plur.'
 f. [tʃəpukáŋar] 'rake-accusative plur.'
 g. [tʃəpukképar] 'rake-dative plur.'
 h. [tʃəpukósar] 'rake-genitive plur.'
- (17) a. [sógab] 'hoe-nominative sg.'
 b. [səgábaŋ] 'hoe-accusative sg.'
 c. [səgábkəp] 'hoe-dative sg.'
 d. [səgábəs] 'hoe-genitive sg.'
 e. [səgábar] 'hoe-nominative plur.'
 f. [səgabáŋar] 'hoe-accusative plur.'
 g. [səgabképar] 'hoe-dative plur.'
 h. [səgabósar] 'hoe-genitive plur.'
- (18) a. [gólip] 'washtub-nominative sg.'
 b. [gəlípəŋ] 'washtub-accusative sg.'
 c. [gəlípəkəp] 'washtub-dative sg.'
 d. [gəlípəs] 'washtub-genitive sg.'
 e. [gəlípər] 'washtub-nominative plur.'
 f. [gəlípáŋar] 'washtub-accusative plur.'
 g. [gəlípképar] 'washtub-dative plur.'
 h. [gəlípósar] 'washtub-genitive plur.'
- (19) a. [dórak] 'still-nominative sg.'
 b. [dərákəŋ] 'still-accusative sg.'
 c. [dərákkəp] 'still-dative sg.'
 d. [dərákəs] 'still-genitive sg.'
 e. [dərákar] 'still-nominative plur.'
 f. [dərakáŋar] 'still-accusative plur.'
 g. [dərakképar] 'still-dative plur.'
 h. [dərakósar] 'still-genitive plur.'
- (20) a. [págləm] 'shed-nominative sg.'
 b. [pəglómaŋ] 'shed-accusative sg.'
 c. [pəglóməkəp] 'shed-dative sg.'
 d. [pəglóməs] 'shed-genitive sg.'
 e. [pəglómar] 'shed-nominative plur.'
 f. [pəglómáŋar] 'shed-accusative plur.'
 g. [pəgləmképar] 'shed-dative plur.'
 h. [pəgləμόςar] 'shed-genitive plur.'
- (21) a. [dúbənəm] 'barn-nominative sg.'
 b. [dubnómaŋ] 'barn-accusative sg.'
 c. [dubnóməkəp] 'barn-dative sg.'

- d. [dubnóməs] ‘barn-genitive sg.’
 e. [dubnómar] ‘barn-nominative plur.’
 f. [dubnəmáŋar] ‘barn-accusative plur.’
 g. [dubnəmképar] ‘barn-dative plur.’
 h. [dubnəmósar] ‘barn-genitive plur.’
- (22) a. [mótwək] ‘house-nominative sg.’
 b. [mətwékaŋ] ‘house-accusative sg.’
 c. [mətwékkəp] ‘house-dative sg.’
 d. [mətwékəs] ‘house-genitive sg.’
 e. [mətwékar] ‘house-nominative plur.’
 f. [mətwəkáŋar] ‘house-accusative plur.’
 g. [mətwəkképar] ‘house-dative plur.’
 h. [mətwəkósar] ‘house-genitive plur.’
- (23) a. [békəs] ‘farmer-nominative sg.’
 b. [bəkésaŋ] ‘farmer-accusative sg.’
 c. [bəkéskəp] ‘farmer-dative sg.’
 d. [bəkésəs] ‘farmer-genitive sg.’
 e. [bəkésar] ‘farmer-nominative plur.’
 f. [bəkésáŋar] ‘farmer-accusative plur.’
 g. [bəkəsképar] ‘farmer-dative plur.’
 h. [bəkəsósar] ‘farmer-genitive plur.’
- (24) a. [létnəp] ‘husband-nominative sg.’
 b. [lətnópaŋ] ‘husband-accusative sg.’
 c. [lətnópkəp] ‘husband-dative sg.’
 d. [lətnópəs] ‘husband-genitive sg.’
 e. [lətnópar] ‘husband-nominative plur.’
 f. [lətnəpáŋar] ‘husband-accusative plur.’
 g. [lətnəpképar] ‘husband-dative plur.’
 h. [lətnópósar] ‘husband-genitive plur.’
- (25) a. [fófəm] ‘child-nominative sg.’
 b. [fəfómaŋ] ‘child-accusative sg.’
 c. [fəfóməkəp] ‘child-dative sg.’
 d. [fəfóməs] ‘child-genitive sg.’
 e. [fəfómar] ‘child-nominative plur.’
 f. [fəfəmaŋar] ‘child-accusative plur.’
 g. [fəfəmképar] ‘child-dative plur.’
 h. [fəfəmósar] ‘child-genitive plur.’
- (26) a. [bérəp] ‘sister-nominative sg.’
 b. [bərópaŋ] ‘sister-accusative sg.’
 c. [bərópkəp] ‘sister-dative sg.’
 d. [bərópəs] ‘sister-genitive sg.’

- e. [bərópar] ‘sister-nominative plur.’
 f. [bərəpáŋar] ‘sister-accusative plur.’
 g. [bərəpképar] ‘sister-dative plur.’
 h. [bərəpósar] ‘sister-genitive plur.’
- (27) a. [pórəb] ‘wife-nominative sg.’
 b. [pərəbaŋ] ‘wife-accusative sg.’
 c. [pərəbkəp] ‘wife-dative sg.’
 d. [pərəbəs] ‘wife-genitive sg.’
 e. [pərəbar] ‘wife-nominative plur.’
 f. [pərəbáŋar] ‘wife-accusative plur.’
 g. [pərəbképar] ‘wife-dative plur.’
 h. [pərəbósar] ‘wife-genitive plur.’
- (28) a. [tʃékaf] ‘brother-nominative sg.’
 b. [tʃəkáfəŋ] ‘brother-accusative sg.’
 c. [tʃəkáfəkəp] ‘brother-dative sg.’
 d. [tʃəkáfəs] ‘brother-genitive sg.’
 e. [tʃəkáfər] ‘brother-nominative plur.’
 f. [tʃəkáfəŋar] ‘brother-accusative plur.’
 g. [tʃəkáfəképar] ‘brother-dative plur.’
 h. [tʃəkáfósar] ‘brother-genitive plur.’
- (29) a. [tókaf] ‘grandfather-nominative sg.’
 b. [təkáfəŋ] ‘grandfather-accusative sg.’
 c. [təkáfəkəp] ‘grandfather-dative sg.’
 d. [təkáfəs] ‘grandfather-genitive sg.’
 e. [təkáfər] ‘grandfather-nominative plur.’
 f. [təkáfəŋar] ‘grandfather-accusative plur.’
 g. [təkáfəképar] ‘grandfather-dative plur.’
 h. [təkáfósar] ‘grandfather-genitive plur.’
- (30) a. [pátʃəm] ‘grandmother-nominative sg.’
 b. [patʃémaŋ] ‘grandmother-accusative sg.’
 c. [patʃémkəp] ‘grandmother-dative sg.’
 d. [patʃéməs] ‘grandmother-genitive sg.’
 e. [patʃémar] ‘grandmother-nominative plur.’
 f. [patʃémáŋar] ‘grandmother-accusative plur.’
 g. [patʃémképar] ‘grandmother-dative plur.’
 h. [patʃémósar] ‘grandmother-genitive plur.’
- (31) a. [pátəm] ‘field hand-nominative sg.’
 b. [patómaŋ] ‘field hand-accusative sg.’
 c. [patóməkəp] ‘field hand-dative sg.’
 d. [patóməs] ‘field hand-genitive sg.’
 e. [patómar] ‘field hand-nominative plur.’

- f. [patəmáŋar] ‘field hand-accusative plur.’
 g. [patəmképar] ‘field hand-dative plur.’
 h. [patəmósar] ‘field hand-genitive plur.’
- (32) a. [dʒémis] ‘tax collector-nominative sg.’
 b. [dʒəmísaŋ] ‘tax collector-accusative sg.’
 c. [dʒəmískəp] ‘tax collector-dative sg.’
 d. [dʒəmísəs] ‘tax collector-genitive sg.’
 e. [dʒəmísar] ‘tax collector-nominative plur.’
 f. [dʒəmísáŋar] ‘tax collector-accusative plur.’
 g. [dʒəmísképar] ‘tax collector-dative plur.’
 h. [dʒəmísósar] ‘tax collector-genitive plur.’
- (33) a. [dʒé.ɪkul] ‘miller-nominative sg.’
 b. [dʒərkúlaŋ] ‘miller-accusative sg.’
 c. [dʒərkúlkəp] ‘miller-dative sg.’
 d. [dʒərkúləs] ‘miller-genitive sg.’
 e. [dʒərkúlar] ‘miller-nominative plur.’
 f. [dʒərkúláŋar] ‘miller-accusative plur.’
 g. [dʒərkulképar] ‘miller-dative plur.’
 h. [dʒərkulósar] ‘miller-genitive plur.’
- (34) a. [dómis] ‘milkmaid-nominative sg.’
 b. [dəmísaŋ] ‘milkmaid-accusative sg.’
 c. [dəmískəp] ‘milkmaid-dative sg.’
 d. [dəmísəs] ‘milkmaid-genitive sg.’
 e. [dəmísar] ‘milkmaid-nominative plur.’
 f. [dəmísáŋar] ‘milkmaid-accusative plur.’
 g. [dəmísképar] ‘milkmaid-dative plur.’
 h. [dəmísósar] ‘milkmaid-genitive plur.’
- (35) a. [fódʒəs] ‘shepherd-nominative sg.’
 b. [fədzésaŋ] ‘shepherd-accusative sg.’
 c. [fədzéskəp] ‘shepherd-dative sg.’
 d. [fədzésəs] ‘shepherd-genitive sg.’
 e. [fədzésar] ‘shepherd-nominative plur.’
 f. [fədzəsáŋar] ‘shepherd-accusative plur.’
 g. [fədzəsképar] ‘shepherd-dative plur.’
 h. [fədzəsósar] ‘shepherd-genitive plur.’
- (36) a. [pódməs] ‘priest-nominative sg.’
 b. [pədmósaŋ] ‘priest-accusative sg.’
 c. [pədmóskəp] ‘priest-dative sg.’
 d. [pədmósəs] ‘priest-genitive sg.’
 e. [pədmósar] ‘priest-nominative plur.’
 f. [pədmósáŋar] ‘priest-accusative plur.’

- g. [pədmæsképar] ‘priest-dative plur.’
 h. [pədməsósar] ‘priest-genitive plur.’
- (37) a. [fjévnəs] ‘baby-nominative sg.’
 b. [fjəvésaŋ] ‘baby-accusative sg.’
 c. [fjəvéskəp] ‘baby-dative sg.’
 d. [fjəvéəs] ‘baby-genitive sg.’
 e. [fjəvésar] ‘baby-nominative plur.’
 f. [fjəvəsáŋar] ‘baby-accusative plur.’
 g. [fjəvæsképar] ‘baby-dative plur.’
 h. [fjəvəsósar] ‘baby-genitive plur.’
- (38) a. [sófkəs] ‘chair-nominative sg.’
 b. [səfkésaŋ] ‘chair-accusative sg.’
 c. [səfkéskəp] ‘chair-dative sg.’
 d. [səfkésəs] ‘chair-genitive sg.’
 e. [səfkésar] ‘chair-nominative plur.’
 f. [səfkəsáŋar] ‘chair-accusative plur.’
 g. [səfkæsképar] ‘chair-dative plur.’
 h. [səfkəsósar] ‘chair-genitive plur.’
- (39) a. [jáfəb] ‘bed-nominative sg.’
 b. [jáfəbaŋ] ‘bed-accusative sg.’
 c. [jáfəbkəp] ‘bed-dative sg.’
 d. [jáfəbəs] ‘bed-genitive sg.’
 e. [jáfəbar] ‘bed-nominative plur.’
 f. [jáfəbáŋar] ‘bed-accusative plur.’
 g. [jáfəbképar] ‘bed-dative plur.’
 h. [jáfəbósar] ‘bed-genitive plur.’
- (40) a. [jásəb] ‘table-nominative sg.’
 b. [jasóbəŋ] ‘table-accusative sg.’
 c. [jasóbkəp] ‘table-dative sg.’
 d. [jasóbəs] ‘table-genitive sg.’
 e. [jasóbar] ‘table-nominative plur.’
 f. [jasəbáŋar] ‘table-accusative plur.’
 g. [jasəbképar] ‘table-dative plur.’
 h. [jasəbósar] ‘table-genitive plur.’
- (41) a. [páɪfəp] ‘ladle-nominative sg.’
 b. [parfəpaŋ] ‘ladle-accusative sg.’
 c. [parfəpkəp] ‘ladle-dative sg.’
 d. [parfəpəs] ‘ladle-genitive sg.’
 e. [parfəpar] ‘ladle-nominative plur.’
 f. [parfəpáŋar] ‘ladle-accusative plur.’
 g. [parfəpképar] ‘ladle-dative plur.’

- h. [parʃəpósar] ‘ladle-genitive plur.’
- (42) a. [rákʃəp] ‘spoon-nominative sg.’
 b. [rakʃépaŋ] ‘spoon-accusative sg.’
 c. [rakʃépkəp] ‘spoon-dative sg.’
 d. [rakʃépəs] ‘spoon-genitive sg.’
 e. [rakʃépar] ‘spoon-nominative plur.’
 f. [rakʃəpáŋar] ‘spoon-accusative plur.’
 g. [rakʃəpképar] ‘spoon-dative plur.’
 h. [rakʃəpósar] ‘spoon-genitive plur.’
- (43) a. [tʃírífik] ‘kettle-nominative sg.’
 b. [tʃírífikaŋ] ‘kettle-accusative sg.’
 c. [tʃírífikkəp] ‘kettle-dative sg.’
 d. [tʃírífíkəs] ‘kettle-genitive sg.’
 e. [tʃírífíkar] ‘kettle-nominative plur.’
 f. [tʃírífíkáŋar] ‘kettle-accusative plur.’
 g. [tʃírífikképar] ‘kettle-dative plur.’
 h. [tʃírífíkósar] ‘kettle-genitive plur.’
- (44) a. [rítífik] ‘churn-nominative sg.’
 b. [ritfíkaŋ] ‘churn-accusative sg.’
 c. [ritfíkkəp] ‘churn-dative sg.’
 d. [ritfíkəs] ‘churn-genitive sg.’
 e. [ritfíkar] ‘churn-nominative plur.’
 f. [ritfíkáŋar] ‘churn-accusative plur.’
 g. [ritfíkképar] ‘churn-dative plur.’
 h. [ritfíkósar] ‘churn-genitive plur.’
- (45) a. [mólar] ‘rag-nominative sg.’
 b. [məláraŋ] ‘rag-accusative sg.’
 c. [məláíkəp] ‘rag-dative sg.’
 d. [məláɾəs] ‘rag-genitive sg.’
 e. [məlárar] ‘rag-nominative plur.’
 f. [məlaráŋar] ‘rag-accusative plur.’
 g. [məlarképar] ‘rag-dative plur.’
 h. [məlarósar] ‘rag-genitive plur.’
- (46) a. [súbər] ‘seed-nominative sg.’
 b. [subéraŋ] ‘seed-accusative sg.’
 c. [subéíkəp] ‘seed-dative sg.’
 d. [subérəs] ‘seed-genitive sg.’
 e. [subéar] ‘seed-nominative plur.’
 f. [subəráŋar] ‘seed-accusative plur.’
 g. [subərképar] ‘seed-dative plur.’
 h. [subərósar] ‘seed-genitive plur.’

- (47) a. [mátpər] ‘fence-nominative sg.’
 b. [matpóraŋ] ‘fence-accusative sg.’
 c. [matpórkəp] ‘fence-dative sg.’
 d. [matpórəs] ‘fence-genitive sg.’
 e. [matpórar] ‘fence-nominative plur.’
 f. [matpəráŋar] ‘fence-accusative plur.’
 g. [matpərképar] ‘fence-dative plur.’
 h. [matpərósar] ‘fence-genitive plur.’
- (48) a. [étŋik] ‘curtain-nominative sg.’
 b. [ətŋíkəŋ] ‘curtain-accusative sg.’
 c. [ətŋíkkəp] ‘curtain-dative sg.’
 d. [ətŋíkəs] ‘curtain-genitive sg.’
 e. [ətŋíkar] ‘curtain-nominative plur.’
 f. [ətŋíkáŋar] ‘curtain-accusative plur.’
 g. [ətŋíkképar] ‘curtain-dative plur.’
 h. [ətŋíkósar] ‘curtain-genitive plur.’
- (49) a. [ótpəf] ‘hearth-nominative sg.’
 b. [ətpéfaŋ] ‘hearth-accusative sg.’
 c. [ətpéfkəp] ‘hearth-dative sg.’
 d. [ətpéfəs] ‘hearth-genitive sg.’
 e. [ətpéfar] ‘hearth-nominative plur.’
 f. [ətpéfáŋar] ‘hearth-accusative plur.’
 g. [ətpéfképar] ‘hearth-dative plur.’
 h. [ətpéfósar] ‘hearth-genitive plur.’
- (50) a. [ŋúdbər] ‘shaman-nominative sg.’
 b. [ŋudbóraŋ] ‘shaman-accusative sg.’
 c. [ŋudbókəp] ‘shaman-dative sg.’
 d. [ŋudbórəs] ‘shaman-genitive sg.’
 e. [ŋudbórar] ‘shaman-nominative plur.’
 f. [ŋudbəráŋar] ‘shaman-accusative plur.’
 g. [ŋudbərképar] ‘shaman-dative plur.’
 h. [ŋudbərósar] ‘shaman-genitive plur.’
- (51) a. [rúdbəs] ‘midwife-nominative sg.’
 b. [rudbésəŋ] ‘midwife-accusative sg.’
 c. [rudbésəkəp] ‘midwife-dative sg.’
 d. [rudbésəs] ‘midwife-genitive sg.’
 e. [rudbésar] ‘midwife-nominative plur.’
 f. [rudbəsáŋar] ‘midwife-accusative plur.’
 g. [rudbésəképar] ‘midwife-dative plur.’
 h. [rudbəsósar] ‘midwife-genitive plur.’

- (52) a. [lódgəp] ‘agate-nominative sg.’
 b. [lədgópaŋ] ‘agate-accusative sg.’
 c. [lədgópəkəp] ‘agate-dative sg.’
 d. [lədgópəs] ‘agate-genitive sg.’
 e. [lədgópar] ‘agate-nominative plur.’
 f. [lədgəpáŋar] ‘agate-accusative plur.’
 g. [lədgəpképar] ‘agate-dative plur.’
 h. [lədgəpósar] ‘agate-genitive plur.’
- (53) a. [fásfir] ‘flint-nominative sg.’
 b. [fasfíraŋ] ‘flint-accusative sg.’
 c. [fasfírkəp] ‘flint-dative sg.’
 d. [fasfírəs] ‘flint-genitive sg.’
 e. [fasfírar] ‘flint-nominative plur.’
 f. [fasfíráŋar] ‘flint-accusative plur.’
 g. [fasfírképar] ‘flint-dative plur.’
 h. [fasfírósar] ‘flint-genitive plur.’
- (54) a. [kósnəs] ‘spindle-nominative sg.’
 b. [kəsnésaŋ] ‘spindle-accusative sg.’
 c. [kəsnéskəp] ‘spindle-dative sg.’
 d. [kəsnésəs] ‘spindle-genitive sg.’
 e. [kəsnésar] ‘spindle-nominative plur.’
 f. [kəsnəsáŋar] ‘spindle-accusative plur.’
 g. [kəsnésképar] ‘spindle-dative plur.’
 h. [kəsnəsósar] ‘spindle-genitive plur.’
- (55) a. [mósθəs] ‘loom-nominative sg.’
 b. [məθésaŋ] ‘loom-accusative sg.’
 c. [məθéskəp] ‘loom-dative sg.’
 d. [məθésəs] ‘loom-genitive sg.’
 e. [məθésar] ‘loom-nominative plur.’
 f. [məθəsáŋar] ‘loom-accusative plur.’
 g. [məθésképar] ‘loom-dative plur.’
 h. [məθəsósar] ‘loom-genitive plur.’
- (56) a. [tútup] ‘needle-nominative sg.’
 b. [tutúpaŋ] ‘needle-accusative sg.’
 c. [tutúpkəp] ‘needle-dative sg.’
 d. [tutúpəs] ‘needle-genitive sg.’
 e. [tutúpar] ‘needle-nominative plur.’
 f. [tutupáŋar] ‘needle-accusative plur.’
 g. [tutupképar] ‘needle-dative plur.’
 h. [tutupósar] ‘needle-genitive plur.’
- (57) a. [ságip] ‘thimble-nominative sg.’

- b. [sagípaŋ] ‘thimble-accusative sg.’
 c. [sagípkəp] ‘thimble-dative sg.’
 d. [sagípəs] ‘thimble-genitive sg.’
 e. [sagípaɾ] ‘thimble-nominative plur.’
 f. [sagípaŋaɾ] ‘thimble-accusative plur.’
 g. [sagípképaɾ] ‘thimble-dative plur.’
 h. [sagípósar] ‘thimble-genitive plur.’
- (58) a. [gíkət] ‘tub-nominative sg.’
 b. [gíkótaŋ] ‘tub-accusative sg.’
 c. [gíkótkəp] ‘tub-dative sg.’
 d. [gíkótəs] ‘tub-genitive sg.’
 e. [gíkótaɾ] ‘tub-nominative plur.’
 f. [gíkótaŋaɾ] ‘tub-accusative plur.’
 g. [gíkətképaɾ] ‘tub-dative plur.’
 h. [gíkətósar] ‘tub-genitive plur.’
- (59) a. [kítʃək] ‘shears-nominative sg.’
 b. [kítʃékaŋ] ‘shears-accusative sg.’
 c. [kítʃékkəp] ‘shears-dative sg.’
 d. [kítʃékəs] ‘shears-genitive sg.’
 e. [kítʃékaɾ] ‘shears-nominative plur.’
 f. [kítʃékaŋaɾ] ‘shears-accusative plur.’
 g. [kítʃékképaɾ] ‘shears-dative plur.’
 h. [kítʃékósar] ‘shears-genitive plur.’
- (60) a. [wáθəb] ‘comb-nominative sg.’
 b. [waθóbaŋ] ‘comb-accusative sg.’
 c. [waθóbkəp] ‘comb-dative sg.’
 d. [waθóbəs] ‘comb-genitive sg.’
 e. [waθóbaɾ] ‘comb-nominative plur.’
 f. [waθəbáŋaɾ] ‘comb-accusative plur.’
 g. [waθəbképaɾ] ‘comb-dative plur.’
 h. [waθəbósar] ‘comb-genitive plur.’
- (61) a. [búθpuð] ‘wheel-nominative sg.’
 b. [buθpúðaŋ] ‘wheel-accusative sg.’
 c. [buθpúðkəp] ‘wheel-dative sg.’
 d. [buθpúðəs] ‘wheel-genitive sg.’
 e. [buθpúðaɾ] ‘wheel-nominative plur.’
 f. [buθpuðáŋaɾ] ‘wheel-accusative plur.’
 g. [buθpuðképaɾ] ‘wheel-dative plur.’
 h. [buθpuðósar] ‘wheel-genitive plur.’
- (62) a. [éʃig] ‘shaft-nominative sg.’
 b. [əʃigaŋ] ‘shaft-accusative sg.’

- c. [əʃɪgkəp] 'shaft-dative sg.'
 d. [əʃɪgəs] 'shaft-genitive sg.'
 e. [əʃɪgar] 'shaft-nominative plur.'
 f. [əʃɪgáɲar] 'shaft-accusative plur.'
 g. [əʃɪgképar] 'shaft-dative plur.'
 h. [əʃɪgósar] 'shaft-genitive plur.'
- (63) a. [járɪm] 'yoke-nominative sg.'
 b. [járɪmaɲ] 'yoke-accusative sg.'
 c. [járɪmkəp] 'yoke-dative sg.'
 d. [járɪməs] 'yoke-genitive sg.'
 e. [járɪmar] 'yoke-nominative plur.'
 f. [járɪmáɲar] 'yoke-accusative plur.'
 g. [járɪmképar] 'yoke-dative plur.'
 h. [járɪmósar] 'yoke-genitive plur.'
- (64) a. [wétpan] 'plow-nominative sg.'
 b. [wətpánaɲ] 'plow-accusative sg.'
 c. [wətpánkəp] 'plow-dative sg.'
 d. [wətpánəs] 'plow-genitive sg.'
 e. [wətpánar] 'plow-nominative plur.'
 f. [wətpanáɲar] 'plow-accusative plur.'
 g. [wətpanképar] 'plow-dative plur.'
 h. [wətpanósar] 'plow-genitive plur.'
- (65) a. [ɲógθəɲ] 'hammer-nominative sg.'
 b. [ɲəgθéɲaɲ] 'hammer-accusative sg.'
 c. [ɲəgθéɲkəp] 'hammer-dative sg.'
 d. [ɲəgθéɲəs] 'hammer-genitive sg.'
 e. [ɲəgθéɲar] 'hammer-nominative plur.'
 f. [ɲəgθəɲáɲar] 'hammer-accusative plur.'
 g. [ɲəgθəɲképar] 'hammer-dative plur.'
 h. [ɲəgθəɲósar] 'hammer-genitive plur.'
- (66) a. [rátʃəl] 'chisel-nominative sg.'
 b. [rátʃélaɲ] 'chisel-accusative sg.'
 c. [rátʃélkəp] 'chisel-dative sg.'
 d. [rátʃéləs] 'chisel-genitive sg.'
 e. [rátʃélar] 'chisel-nominative plur.'
 f. [rátʃəláɲar] 'chisel-accusative plur.'
 g. [rátʃəlképar] 'chisel-dative plur.'
 h. [rátʃəlósar] 'chisel-genitive plur.'
- (67) a. [tóθrar] 'mallet-nominative sg.'
 b. [təθráraɲ] 'mallet-accusative sg.'
 c. [təθráɪkəp] 'mallet-dative sg.'

- d. [təθrárəs] 'mallet-genitive sg.'
e. [təθrárar] 'mallet-nominative plur.'
f. [təθraráŋar] 'mallet-accusative plur.'
g. [təθrarképar] 'mallet-dative plur.'
h. [təθrarósar] 'mallet-genitive plur.'
- (68) a. [bísuw] 'awl-nominative sg.'
b. [bisúwan] 'awl-accusative sg.'
c. [bisúwkəp] 'awl-dative sg.'
d. [bisúwəs] 'awl-genitive sg.'
e. [bisúwar] 'awl-nominative plur.'
f. [bisuwáŋar] 'awl-accusative plur.'
g. [bisuwképar] 'awl-dative plur.'
h. [bisuwósar] 'awl-genitive plur.'
- (69) a. [áwəj] 'plane-nominative sg.'
b. [awéjaŋ] 'plane-accusative sg.'
c. [awéjkəp] 'plane-dative sg.'
d. [awéjəs] 'plane-genitive sg.'
e. [awéjar] 'plane-nominative plur.'
f. [awəjáŋar] 'plane-accusative plur.'
g. [awəjképar] 'plane-dative plur.'
h. [awəjósar] 'plane-genitive plur.'