

### 3 Personal Affixes, Reciprocal and Reflexive

**Summary** 3.1 Background Information and Observation. – 3.2 Research. – 3.3 Analysis and Description.

#### 3.1 Background Information and Observation

HA and SA distinguish among first, second, and third person. Both varieties have one more person, in addition to the canonical three, which for the time being we will call ‘fourth person’ and is expressed with the affixes *-an/a(n)/i-*.

The so-called ‘fourth person’ of HA is used to mark a first person plural inclusive (that is, a first person plural ‘we’ that includes the speaker and the interlocutor) (1), as opposed to the first person plural exclusive (that is, a first person plural ‘we’ that includes the speaker, some other referent(s) but not the interlocutor). The ‘fourth person’ is otherwise used to mark an indefinite agent (2), an honorific second person honorific (3), or within reported speech to reference to a first or third person speaker (4).

- (1) *‘Eun                    ‘i-nu-‘an      kuni      p              somo      ne              na.*  
3S.O/towards AP-hear-**4.S** COND thing NEG COP FP  
[These] are things **we** (= you and I) shouldn’t pay attention to.’ (Tamura 2000, 63)

- (2) *Cise-tumam    ‘anak      ki              ani              ‘a-kar.*  
house-wall TOP reed with **4.S-3P.O**/make  
‘The walls of the house are made of reed [lit.: **someone** made the walls of the house with reed].’ (Tamura 2000, 71)

## 3 • Personal Affixes, Reciprocal and Reflexive

- (3) *Ku-yupo, sinenne 'a-ani ruwe he 'an?*  
 1S.PSR-older.brother.POSS alone 4.A-3S.O/carry DIR.RSN <FOC> DIR.RSN  
 'Older brother, did **you** carry [that] by yourself?' (Tamura 2000, 67)
- (4) *Ta-p 'a-e-\_upaskuma tane ka ki ...sekor Haca sekor*  
 this-thing 4.A-APPL-3S.O/tell.NMLZ now even SLV/VO/do ADV Haca ADV  
 'a-ye 'acapo hawean.  
 4.A-3S.O/sayold.man 3S.S/speak  
 'An old man called Haca said: "Indeed now **I** tell these facts ..."' (Tamura 1984, 22)

In her sketch grammar of Sakhalin Ainu, Murasaki (1979) says that there is no specific way to express a first person plural 'we' and that the only formal way to do that is with the affixes *-an/an/i-*, which are clearly cognate of the HA 'fourth person' affixes *-an/a/i-*. If this may apply to the western dialects spoken by the informants whom Murasaki worked with, it is certainly not true for all dialects of SA. In fact, a separate set of affixes for first person plural, cognate of those of HA, is present in eastern dialects of SA. Furthermore, the functions illustrated for the HA *-an/a/i-* in examples (1), (2) and (4) above are also attested for *-an/an/i-* (5)-(6) in both western and eastern dialects of SA. For this reason, it makes sense to acknowledge the presence of a polyfunctional 'fourth person' in SA as well (Dal Corso 2021). Besides the fact that in western dialects there seems to be no formal difference between inclusive and exclusive first person plural, one more striking difference between HA and SA is that in this latter variety 'fourth person' markers are never used to cross-reference an honorific second person.

- (5) *Ene an tok-hi 'an-kara-pe.*  
 like.this 3S.S/exist.PC 3.PSR/mark-POSS 4.A-3P.O/make-thing  
 'Such [enormous] structures [could have made one think that] **someone** made them [on purpose].' (Dal Corso 2021, 277)
- (6) *'An-kasmesu-hu hee 'an-kaasiw-[H]e he 'an-ki kusu*  
 4.A-3S.O/help-NMLZ FOC 4.A-3S.O/aid-NMLZ FOC 4.A-3S.O/do CAU.FIN  
*neampe nah ramu.*  
 TOP COMP 3S.A/3S.O/think  
 'She thought: "How in the world [can] **I** do to help or assist it?"' (Dal Corso 2021, 274)

Person is marked on Ainu verbs via affixes (both prefixes and suffixes). In both HA and SA third person singular is signalled by the lack of affixes. While for HA this is also true for third person plural, in SA this latter can sometimes be marked overtly, with the suffix *-(a) hci*, which is not obligatory (Murasaki 1979, 49). **Personal affixes are**

**only used for the subject and the object (or indirect object) of a verb and a maximum of one affix (for intransitive verbs) or two affixes (for transitive verbs) can be attached to a verb.** The following tables show all personal agreement markers (subject referent) of the verbal paradigm on an intransitive and a transitive verb.

**Table 1** Personal agreement affixes of HA and SA with the intransitive verb *mina/miina* 'laugh'

person	HA	SA
1sg	<i>ku-mina</i>	<i>ku-miina</i>
2sg	<i>e-mina</i>	<i>e-miina</i>
3sg	<i>mina</i>	<i>miina</i>
1pl	<i>mina-as</i>	<i>miina-as</i>
2pl	<i>eci-mina</i>	<i>eci-miina</i>
3pl	<i>mina</i>	<i>miina(-hci)</i>
4	<i>mina-an</i>	<i>miina-an</i>

**Table 2** Personal agreement affixes of HA and SA with the transitive verb *nukar/nukara* 'see, look', with implied third person singular object

person	HA	SA
1sg	<i>ku-nukar</i>	<i>ku-nukara</i>
2sg	<i>e-nukar</i>	<i>e-nukara</i>
3sg	<i>nukar</i>	<i>nukara</i>
1pl	<i>ci-nukar</i>	<i>ci-nukara</i>
2pl	<i>eci-nukar</i>	<i>eci-nukara</i>
3pl	<i>nukar</i>	<i>nukara(-hci)</i>
4	<i>a-nukar</i>	<i>an-nukara</i>

→ Consider this additional information...

1. The verbal prefix *yay-* expresses reflexivity: the action carried out by the doer falls back on them – e.g. *yay-kar* (HA), *yay-ka-ra* (SA) 'become [lit.: make oneself]'
2. The verbal prefix *u-* expresses reciprocity: the verb has a plural subject whose parts carry out an action towards each other – e.g. *u-koyki* (HA, SA) 'fight [lit.: beat each other up]'

→ Dataset 1 - Transitive agreement

Consider the following example sentences and the relative translations (sentences marked with \* are ungrammatical). Can you determine the full transitive agreement paradigm of Ainu verbs? Try to fill in the tables below. Can you determine what is the correct version of sentences marked as ungrammatical? What peculiarities do you notice? What generalisations on the syntactic typology of the language can you make? What revisions/additions to the previously given information can you propose?

## Set 1.1 (Hokkaidō Ainu)

- |                                |  |
|--------------------------------|--|
| 1. <i>Aynu poyson se.</i>      | The man carries the baby on his back.      |
| 2. * <i>Ciecinukar.</i>        | We (exc.) see you all.                     |
| 3. <i>Huci wakkata kopan.</i>  | The old woman hates drawing water.         |
| 4. <i>Poyson kuse.</i>         | I carry a baby on my back.                 |
| 5. <i>Kuyupoho ekopan.</i>     | My older brother hates you.                |
| 6. <i>Ecinukar.</i>            | I see you all.                             |
| 7. <i>Aese.</i>                | Someone carries you on their back.         |
| 8. * <i>Kuennukar.</i>         | I see myself.                              |
| 9. <i>Aise.</i>                | We (exc.) carry someone on our back.       |
| 10. <i>Ecikopan.</i>           | I hate you.                                |
| 11. <i>Porosike ecise.</i>     | You all carry a big luggage on your back.  |
| 12. * <i>Ciese.</i>            | We (exc.) carry you on our backs.          |
| 13. <i>Hucise.</i>             | The old woman carries someone on her back. |
| 14. <i>Aecinukar.</i>          | Someone sees you all.                      |
| 15. <i>Apkawas.</i>            | We (exc.) walk.                            |
| 16. * <i>Enanukar.</i>         | Someone sees me.                           |
| 17. <i>Aenkopan.</i>           | Someone hates me.                          |
| 18. <i>Eciense.</i>            | You all carry me on your back.             |
| 19. * <i>Ainukar.</i>          | We (inc.) see ourselves.                   |
| 20. <i>Tan poyson unkopan.</i> | This baby hates us (exc.).                 |
| 21. <i>Aunse.</i>              | Someone carries us (exc.) on their back.   |
| 22. <i>Aynu ennukar.</i>       | A person sees me.                          |
| 23. * <i>Eense.</i>            | You carry me on your back.                 |
| 24. <i>Ni ase.</i>             | We (inc.) carry firewood on our back.      |
| 25. <i>Kuise.</i>              | I carry someone on my back.                |
| 26. <i>Ecikopan.</i>           | We (exc.) hate you all.                    |
| 27. * <i>Kuekopan.</i>         | I hate you.                                |
| 28. <i>Unnukar.</i>            | You see us (exc.).                         |
| 29. <i>Kuyaynukar.</i>         | I see myself.                              |
| 30. * <i>Ikuse.</i>            | I carry someone on my back.                |

31. <i>Apkasan.</i>	We (inc.) walk.
32. <i>Ni ese.</i>	You carry firewood on your back.
33. <i>Teta eciinukar.</i>	You all see someone here.
34. <i>Eciunkopan.</i>	You all hate us (exc.).
35. <i>Poyson ecinukar.</i>	The baby looks at you all.
36. <i>Ainukar.</i>	Someone sees us (inc.).
37. <i>Ni cise.</i>	We (exc.) carry firewood on our back.
38. <i>Enkopan ruwe?</i>	Do you hate me?
39. <i>Eciunukar.</i>	You all look at each other.
40. <i>Ecise.</i>	We (exc.) carry you on our back.
41. <i>Aynu ka poyson ka unnukar.</i>	The man and the baby look at us (exc.).
42. <i>Eise.</i>	You carry someone on your back.
43. * <i>Yayecinukar.</i>	You all see yourselves.

## Set 1.2 (Sakhalin Ainu)

1. <i>Eciinuu.</i>	You all hear us. [western dialects]
2. <i>Tan aynu etura.</i>	This person accompanies you.
3. <i>Wen aynu seta koyki.</i>	The bad man beats up the dog.
4. <i>Ceh ankoyki.</i>	We beat up (= kill) the fish.
5. <i>Ecikoykian.</i>	I beat you all.
6. * <i>Eentura.</i>	You accompany me.
7. <i>Annuuhci.</i>	We hear them.
8. <i>Ekasi ucaskuma nuu.</i>	The old man hears the tale.
9. <i>Ennuu.</i>	You hear me.
10. <i>Ukoykian.</i>	We beat up (= strike) each other.
11. * <i>Kuenuu.</i>	I hear you.
12. <i>Ahci ecitura.</i>	You all accompany the old woman.
13. <i>Esetaha ekoykihci.</i>	You beat up your dogs.
14. <i>Ennuuhci.</i>	Someone hears me.
15. * <i>Kuenkoyki.</i>	I beat up (= strike) myself.
16. <i>Ecikoykihci.</i>	They beat you all.

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17. <i>Enturayan.</i>	You all accompany me.
18. <i>Ahciutah seta koyki.</i>	The old women beat up the dog.
19. <i>Annuu.</i>	We hear them.
20. * <i>Yaykukoyki.</i>	I beat up (= strike) myself.
21. <i>Inuu.</i>	You hear us. [western dialects]
22. <i>Ahci ka ekasi ka eciturahci.</i>	You all accompany the old woman and the old man.
23. <i>Ahci nuuhci.</i>	The old woman hears them.
24. <i>Ecikoyki.</i>	I beat you up.
25. * <i>Anikoyki.</i>	We beat up ourselves.
26. <i>Iturahci.</i>	They accompany us. [western dialects]
27. <i>Inuuyan.</i>	You all hear us. [western dialects]
28. <i>Ahci kunuu.</i>	I hear the old woman.
29. <i>Anetura.</i>	We/I accompany you . [western and eastern dialects]
30. <i>Ahci ka ekasi ka seta koykihci.</i>	The old woman and the old man beat up the dog.
31. <i>Ahciutah kuturahci.</i>	I accompany the old women.
32. <i>Kuyaykoyki.</i>	I beat up (= strike) myself.
33. <i>Aynu inuu.</i>	The man hears us. [western dialects]
34. <i>Ekoykihci.</i>	They beat you up.
35. <i>Ahciutah ekasi ka seta ka nuuhci.</i>	The old women hear an old man and a dog.
36. <i>Ekasi ecitura.</i>	The old man accompanies you all.
37. * <i>Ahci nuuhci.</i>	The old woman hears someone.
38. <i>Ecinuuyan.</i>	We/I hear you. [western and eastern dialects]
39. <i>Ceh ekoyki.</i>	You beat up (= kill) the fish.
40. <i>Aynu enkoyki.</i>	The man beats me up.
41. <i>Ecikoyki</i>	I beat you all
42. <i>Ecitura</i>	We (exc.) accompany you [eastern dialects]
43. <i>Inturayan</i>	You all accompany us (exc.) [eastern dialects]
44. <i>Aninukara</i>	Someone sees us (inc.) [eastern dialects]
45. <i>Einu</i>	You hear us (inc.) [eastern dialects]

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**3 • Personal Affixes, Reciprocal and Reflexive**

46. Ahci intura	The old woman accompanies us (exc.) [eastern dialects]
47. Seta cinuu	We (exc.) hear the dog [eastern dialects]
48. Aynu inkoyki	A person beats us (exc.) [eastern dialects]
49. Ahci itah	The old woman speaks
50. Itakanahci	We (inc.) speak [eastern dialects]
51. Ecinuuhci	You all hear it
52. Ahci ka seta ka paye	The old woman and the dog go
53. Ecipayehci	You all go

Transitive agreement paradigm (HA)

	<b>1SO</b>	<b>1PO</b>	<b>2SO</b>	<b>2PO</b>	<b>3SO</b>	<b>3PO</b>	<b>4O</b>
<b>1SA</b>							
<b>1PA</b>							
<b>2SA</b>							
<b>2PA</b>							
<b>3SA</b>							
<b>3PA</b>							
<b>4A</b>							

Transitive agreement paradigm (SA)

	<b>1SO</b>	<b>1PO</b>	<b>2SO</b>	<b>2PO</b>	<b>3SO</b>	<b>4O</b>
<b>1SA</b>						
<b>1PA</b>						
<b>2SA</b>						
<b>2PA</b>						
<b>3SA</b>						
<b>3PA</b>						
<b>4A</b>						

Once you are finished, compare your results with the tables in the appendix.

### 3.2 Research

Now look at this other dataset and also read the examples from other languages given after it, which you will need for the third and last activity of this lesson.

#### → Dataset 2 – Phonological changes

Consider the verb forms that appear in the following short sentences. All verb forms are given in IPA (note that: indicates a long vowel/double consonant) and they feature some of the intransitive and transitive personal agreement affixes, and the reflexive and reciprocal prefixes *yay-* [jaj-] and *u-* [u-] that you have just analysed. What changes do you notice in their phonological realisation or in the realisation of the verb they are attached to?

#### Set 2.1 (Hokkaidō Ainu)

- |                                 |   |
|---------------------------------|---|
| 1. ajnu suma kik'               | The man hits the rock.                      |
| 2. teta itanki kama             | I put the bowl here.                        |
| 3. eŋɕius                       | You all extinguish.                         |
| 4. sajo itankiʔor oma           | The rice is in the bowl                     |
| 5. itanki kukik'                | I hit the bowl.                             |
| 6. ɸuŋɕi seta ere               | The old woman feeds the dog.                |
| 7. ŋɕiŋiŋeheŋɕama               | We (exc.) put down our luggage.             |
| 8. atujʔorun kapkas             | I walk to the sea.                          |
| 9. eapkas                       | You walk.                                   |
| 10. kujosura                    | I throw someone.                            |
| 11. ɸunakun eŋɕiʔosura ja       | Where do you throw it?                      |
| 12. ajnu pujaɾa kari suma osura | The man throws the rock through the window. |
| 13. keraʔan kam patek'ke        | I eat only delicious meat.                  |
| 14. ɸuŋɕi ipe                   | The old woman eats.                         |
| 15. ajnu itanŋɕikiʔot:a su ama  | The man puts the pot on the floor.          |
| 16. ŋɕep' ŋɕe ka somo ki        | We (exc.) do not eat fish.                  |



17. aʔiosura	Someone throws us (inc.).
18. seta aere	We (inc.) feed the dog.
19. utarā uwoma	The people are in each other (=gather together).
20. nupuri ejka	You cross the mountain.
21. ɸuʔɛi rury e	The old woman eats soup.
22. suma kosura	I throw the rock.
23. utarā ukikʔ	The people hit each other.
24. ʔaʔinukarā	Someone sees us (inc.).
25. kosura	I throw [it].
26. peʔʔot:a sumafɛosura	We (exc.) throw the rock into the river.
27. ipeʔas	We (exc.) eat.
28. jukʔpeʔʔorun arāpa	The deer goes to the river.
29. toan nupuri kujka	I cross that mountain.
30. ɸuʔɛi ijere	The old woman feeds us (inc.).
31. tanto kuipe ka somo ki	Today I do not eat.
32. juk:am eʔɛie	You all eat deer meat.
33. poron:o eʔɛi:pe	You all eat a lot.
34. tunasno apkas	They walk fast.
35. pase ɛike kukʔ	I take a heavy luggage.
36. eʔɛiapkas	You all walk.
37. sumafɛukʔ	We (exc.) take a rock.
38. nupuriʔɛika ka eajkapʔ	We (exc.) cannot cross the mountain.
39. kus	I extinguish.
40. kamuj kuɛikehe ukʔ	A bear takes my luggage.
41. ipeʔan	We (inc.) eat.

## Set 2.2 (Sakhalin Ainu)

1. itanki ku?ampa	I bring a bowl.
2. ajnu ramu	The man thinks of it.
3. ahŋɛi jo:nohka	The old woman lulls us.
4. itanki eampaha	Do you bring a bowl?
5. meko ɬɛh kue:re	I feed fish to the cat.
6. nupuru anika:	We cross the mountain.
7. ahŋɛi ɬɛh eŋɛi?e:re	The old woman feeds you all fish.
8. kuramu	I think of it.
9. ajnu nupuru ika:	The man crosses the mountain.
10. ahŋɛi iwante	The old woman knows us.
11. ahŋɛi ten:ehpo o:nohka	The old woman lulls the baby.
12. ni: ku?uɸ	I take firewood.
13. ni: eŋɛiuɸ	You all take firewood.
14. ajnu haru jajkara	The man prepares provisions himself.
15. ahŋɛi ajnu itah kue:ɬɛa:kasno	I teach the old woman the Ainu language.
16. ku?oman	I go.
17. ahŋɛi ɬɛh je:re	The old woman feed us fish.
18. seta ni: uɸ	The dog takes firewood.
19. nupuru kuika:	I cross the mountain.
20. ahŋɛi meko ajnu itah e:ɬɛa:kasno	The old woman teaches the Ainu language to the cat.
21. ten:ehpo ɬɛh su: o:mare	The baby puts the fish in the pot.
22. haru aj:ajkara	We prepare provisions ourselves.
23. itanki anampa	We bring a bowl.
24. ajnu i?a:re	The man makes us sit down.
25. ɬɛh su: e?o:mare	You put the fish in the pot.

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26. antamu	We think of it.
27. meko ƒeh eƒie:re	You all feed fish to the cat.
28. ahƒi ajnu itah ije:ƒa:kasno	The old woman teaches us the Ainu language.
29. ni ku:ɸ	I take firewood.
30. ahƒi su: io:mare	The old woman puts us in the pot.
31. ten:ehpo ƒeh ampa	The baby brings the fish.
32. ahƒi ten:ehpo a:re	The old woman makes the baby sit down.
33. ajnu itanki wo:mare	The man puts the bowls away [lit. makes the bowls be in each other]
34. nupuru an?ika:	We cross the mountain.
35. hemata eampaha	What do you bring?
36. ahƒi aw:ante	We know the old lady.
37. ten:ehpo eo:nohka	You lull the baby.
38. su: kuampa	I bring the pot.
39. nupuru ku?ika:	I cross the mountain.
40. ahƒi ƒeh i?e:re	The old woman feeds us fish.
41. ƒeh eƒi?uɸ	You all take the fish.
42. ten:ehpo kuo:nohka	I lull the baby.
43. ajnu an?a:re	I make the man sit.

## Examples from Other Languages...

### Ancient Greek (Hellenic, Greece)

γράφειν 'to write': perfect tense \*γεγραφ- /γεγραφ/

γέγραφα	γεγραφα	'I have written'
γέγραφας	γεγραφας	'you have written'
γέγραφε	γεγραφε	'he has written'
γεγράφαμεν	γεγραφαμεν	'we have written'
γεγράφατε	γεγραφατε	'you all have written'
γεγράφατον	γεγραφατον	'you two have written'
γέγραμμαι	γεγραμ:αι	'I have been written'
γέγραψαι	γεγραψαι	'you have been written'
γέγραπται	γεγραπται	'he has been written'
γεγράμμεθα	γεγραμ:εθα	'we have been written'
γέγραφθε	γεγραφθε	'you all have been written'
γέγραφθον	γεγραφθον	'you two have been written'

In Ancient Greek the perfect tense of the verb γράφειν is formed from the stem \*γεγραφ- [γεγραφ], that is made up of two **bound morphemes**: the verbal root γραφ- and the prefix Ce- (realised as γε- in this instance). When personal endings are added, the final sound of the verbal stem and the first sound of the personal suffix may be difficult to pronounce in sequence. Therefore, one of the two sounds is accommodated to ease pronunciation – one sound undergoes **assimilation** to the other. If the change concerns the second sound in the sequence, assimilation is said to be **progressive**. If the change concerns the first sound in the sequence, assimilation is said to be **regressive**. The case above shows two instances of regressive assimilation in the forms γεγραμμαι, γεγραμμεθα and γεγραπται, where the voiceless bilabial fricative /φ/ assimilates to the bilabial nasal /m/ and to the voiceless dental-alveolar plosive /t/ respectively, acquiring the same manner of articulation thus becoming itself the bilabial nasal [m] in the first case, or the voiceless bilabial plosive [p] in the second case. In all other phonetic environments /φ/ remains unchanged since we do not encounter difficulties in pronunciation.

We can formalise this assimilation as follows:

/φ/ > [m] / \_m

/φ/ > [p] / \_t

/φ/ > [φ] / elsewhere

The phonological change that concerns /φ/ in the form γεγραψαι is, on the contrary, a case of dissimilation (see below).

Sanskrit (Indo-Aryan, India)

Declension of the noun /go:d<sup>h</sup>uk/ ‘cow-milker’.

	<b>singular</b>	<b>dual</b>	<b>plural</b>
nom	go:d <sup>h</sup> uk	go:duhaw	go:duh <sup>h</sup> h
voc			
acc	go:duh <sup>h</sup> am		
ins	go:duha:	go:d <sup>h</sup> ugb <sup>h</sup> ja:m	go:d <sup>h</sup> ugb <sup>h</sup> ih
dat	go:duhe:		go:d <sup>h</sup> ugb <sup>h</sup> j <sup>h</sup> h
abl	go:duh <sup>h</sup> h	go:duho:h	go:duha:m
gen			go:d <sup>h</sup> uk <sup>h</sup> su
loc	go:duhi		

Throughout its declension, the Sanskrit noun go:d<sup>h</sup>uk ‘cow-milker’ features two phonological processes. The first process is assimilation (i.e. /k/ > [g] / \_C<sub>voiced</sub>) and the second is **dissimilation** which is the opposite of assimilation. With dissimilation a sound becomes less similar to another to ease pronunciation. In the case at hand the aspiration imposed on the voiced dental-alveolar plosive /d<sup>h</sup>/ is lost whenever the voiceless glottal fricative /h/ appears in the noun ending. Like assimilation, dissimilation can be progressive or regressive. We formalise dissimilation in Sanskrit as follows:

/d<sup>h</sup>/ > [d] / \_uh

Hanunó'o (Austronesian, Philippines)

(data from Olson, Schultz 2002 in Payne 2006, 87)

ʔusa	‘one’	kasʔa	‘once’
duwa	‘two’	kadwa	‘twice’
tulu	‘three’	katlu	‘three times’
ʔupat	‘four’	kapʔat	‘four times’
pitu	‘seven’	kapitu	‘seven times’

In Hanunó'o numeral adverbs are formed with the addition of the prefix *ka-* to the cardinal number form. However, the first vowel of the cardinal number form disappears if it is *u*. This phonological process is called **elision** and again it serves to ease pronunciation. In addition to elision, cardinal numbers where *u* is preceded by the glottal stop also show **metathesis** – the glottal stop and the consonant following the elided *u* are inverted. We can formalise elision in adverbial numerals as follows:

/u/ > Ø / C\_C

We can formalise elision followed by metathesis as:

/u/ > Ø / ʔ\_C; ʔC<sub>1</sub> > C<sub>1</sub>ʔ

Ancient Greek (Hellenic, Greece)

Declension of the noun ἀνήρ ‘man’ /aner/ (root \*ανρ- /anr/)

ἀνήρ	aner	‘the man’
ἀνδρός	andros	‘of the man’
ἀνδρί	andri	‘to the man’
ἄνδρα	andra	‘the man’
ἄνερ	aner	‘oh man’

The declension of the noun ἀνήρ ‘man’ in Ancient Greek starts from the root \*ανρ- /anr/ that contains a consonant cluster that is difficult to pronounce (i.e. /nr/). In order to ease pronunciation, an epenthetic sound is added – this process is called **insertion** (or **epenthesis**) and it is the opposite of elision. We formalise insertion as it appears in the case at hand as follows: Ø > [d] / n\_r

English (Germanic, UK)

(data from Payne 2006, 76)

ækjəɹət	‘accurate’	ɪnækjəɹət	‘inaccurate’
kɔŋɡruəs	‘congruous’	ɪŋkɔŋɡruəs	‘incongruous’
pɔsəbəl	‘possible’	ɪmpɔsəbəl	‘impossible’
dəskɹɪˈbəbəl	‘describable’	ɪndəskɹɪˈbəbəl	‘indescribable’
tɔləɹənt	‘tolerant’	ɪntɔləɹənt	‘intolerant’
sensɪtɪv	‘sensitive’	ɪnsensɪtɪv	‘insensitive’
veɹɪəbəl	‘variable’	ɪnveɹɪəbəl	‘invariable’
ɡlɔɹɪəs	‘glorious’	ɪŋɡlɔɹɪəs	‘inglorious’
meɹzəɹəbəl	‘measurable’	ɪmmeɹzəɹəbəl	‘immeasurable’
bæləns	‘balance’	ɪmbæləns	‘imbalance’

Morphemes can take different realisations depending on the **phonological environment** they are in. Sometimes, the phonological processes a morpheme undergoes (among which the ones above) can affect its realisation to the point where it is difficult to recognise the separate forms actually as the same morpheme. Usually semantics helps us in this case, giving us a hint of the same source for the separate forms we see. The prefixes [ɪn-], [ɪm-] and [ɪŋ-] in English are one such case, for which we can assume a same origin given the systematic meaning they contribute to the word they attach to (i.e. a negative meaning). To make linguistic analysis and description easier, morphemes are presented in one ‘representative’ form which may change due to phonological processes – this form is the **underlying form**. The underlying form should be the form that occurs in the largest number of environments and the one that is most difficult to derive by a rule – these two precautions save us a lot of time in writing derivation rules! In the case at hand, [ɪn-] appears before æ, d, t, s, v, [ɪm-] appears before p, m, b, and [ɪŋ-] appears before k, g. The most varied environment is the one of [ɪn-] that we take as our underlying form, while the other two realisations are **alloforms** of this latter. We can formalise the derivation rules as follows:

/ɪn-/ > [ɪm-] / \_C<sub>[bilabial]</sub>

/ɪn-/ > [ɪŋ-] / \_C<sub>[velar]</sub>

/ɪn-/ > [ɪn-] / elsewhere

See Payne 2006, 70-3 for further explanation.

### 3.3 Analysis and Description

Once you finish your analysis of the data, describe, in no less than 300 words, the phonological processes that characterise personal affixes of HA and SA. Provide the right name for them and, optionally, write a formal rule to describe them.

- From what premises did your analysis start?
- What is the underlying form of the HA first person singular subject and of the SA first person plural subject/fourth person (in transitive agreement)? Justify your answer.
- What type of alignment does Ainu display?
- If any, what doubts remain that prevent you from confidently answering this last question?
- How could these doubts be clarified?
- Go back to the last examples (41-53) of set 2.1 in which the suffix *-hci* is used. Do you notice any alternative forms of this suffix? Look at how the suffix is used with transitive and intransitive verbs: is it really a person agreement marker, as you were told in the opening of this lesson, or should we reconsider its status? Motivate your answer.

