

2010 Solutions

(H) Ardhay Uzzlepay (1/4)

	Standard Minangkabau	Sorba	English Translation
a	<i>raso</i>	<i>sora</i>	'taste, feeling'
b	<i>rokok</i>	<i>koro</i>	'cigarette'
c	<i>rayo</i>	<i>yora</i>	'celebrate'
d	<i>susu</i>	<i>sursu</i>	'milk'
e	<i>baso</i>	<i>sorba</i>	'language'
f	<i>lamo</i>	<i>morla</i>	'long time'
g	<i>mati</i>	<i>tirma</i>	'dead'
h	<i>bulan</i>	<i>larbu</i>	'month'
i	<i>minum</i>	<i>nurmi</i>	'drink'
j	<i>lilin</i>	<i>lirli</i>	'wax, candle'
k	<i>mintak</i>	<i>tarmin</i>	'request'
l	<i>cubadak</i>	<i>darcuba</i>	'jackfruit'
m	<i>mangecek</i>	<i>cermange</i>	'talk'
n	<i>bakilek</i>	<i>lerbaki</i>	'lightning'
o	<i>sawah</i>	<i>warsa</i>	'rice field'
p	<i>pitih</i>	<i>tirpi</i>	'money'
q	<i>manangih</i>	<i>ngirmana</i>	'cry'
r	<i>urang</i>	<i>raru</i>	'person'
s	<i>apa</i>	<i>para</i>	'father'
t	<i>iko</i>	<i>kori</i>	'this'
u	<i>gata-gata</i>	<i>targa-targa</i>	'flirtatious'
v	<i>maha-maha</i>	<i>harma-harma</i>	'expensive'
w	<i>campua</i>	<i>purcam</i>	'mix'



2010 Solutions

(H) Ardhay Uzzlepay (2/4)

A comparison of a-c would indicate that to form a Sorba word one takes the consonant and vowel of the last syllable, e.g. so from *raso*, ko from *rokok* and yo from *rayo* and one places it at the beginning of the word. If the last syllable ends in a consonant, e.g. final k in *rokok* then one deletes it.

So we might state the rules as:

1. Delete the word final consonant: (*rokok* > *roko*)
2. Take the final syllable (or C + V) and make it the first syllable (*roko* > *koro*, *raso* > *soro*, *rayo* > *yora*)

However, if we apply these rules to the following words (d-w) we fail to create the correct Sorba word. We notice that a common feature of Sorba words is that the third sound MUST BE *r*. So we need a rule which inserts *r*, unless the standard language word begins with *r*. Notice how this is requirement for a Sorba word.

As we need to stipulate that the third sound must be *r*, we must add another rule:

Rule 3: Add *r* to initial CV unless the following sound is *r*.

Notice that we have to spell out the condition in which the rule applies (i.e. in the absence of following *r*), so we don't get a sequence of *r+r*

We can see from examples h-r that our rule 1 applies.

The reduplicated words in u and v show us that each part of the reduplication must undergo the Sorba formation rules, e.g., *gata-gata* > *targa-targa* (NOT *targataga*). So we would need to stipulate that reduplicated words are treated like two words, and not as a single word.

Example w *campua* > *purcam* (NOT *puarcam* or *arcampu*). This shows us that only the initial Consonant and Vowel of the final syllable is moved to the front of the word to form a Sorba word, so that we need to modify our Rule 1. Furthermore, a word final vowel which follows another vowel is not treated as a final syllable for the Sorba formation.

Modified Rule 1: Delete any sound which follows the final CV sequence.

So after inspection of all the words we can express the rules for converting a standard Minangkabau word into a Sorba word as:

- Rule 1. Treat reduplicated words as a sequence of two identical words.
- Rule 2. Delete any sound which follows the final CV sequence of a word.
- Rule 3. Move the final CV sequence to the start of the word
- Rule 4. If the third sound of the new word is not *r*, insert *r* (after the first CV sequence).



2010 Solutions

(H) Ardhay Uzzlepay (3/4)

H1.

Standard Minang-kabau	Sorba	English
rancak	caran	'nice'
jadi	dirja	'happen'
makan	karma	'eat'
marokok	kormaro	'smoking'
ampek	peram	'hundred'
limpik-limpik	pirlim-pirlim	'stuck together'
dapua	purda	'kitchen'

H2. We can only work back to a set of possible standard Minangkabau words because of two difficulties or problems:

'r' problem: we can't know if 'r' in *lore* was in standard word or whether it was inserted by Sorba 'r' insertion rule, e.g., standard *elo* or *relo* > Sorba *lore*

final sound problem: we can't know if standard word ends in consonant or one or two vowels or not as Sorba deletes final consonant/vowel following a vowel. *lore* could be derived from *elo*, *relo*, *eloa*, *reloa* or *eloC* or *reloC* where 'C' stands for any possible final consonant.

H3. We can see that the word formation rules for converting a Minangkabau word into Solabar are:

1. Delete the sound which follows the final CV sequence.
2. Move the final CV sequence to the beginning of the word.
3. Add *la* to the new word initial CV sequence
4. Delete the sound which follows the new final CV sequence
5. Add *r* to the word.

In converting *baso* we don't need to apply Rule 1.

We apply rule 2 > *soba*

We apply rule 3 > *solaba*

We don't need to apply rule 4.

We apply rule 5 > *solabar*

In converting *campua* and *makan*:

Rule 1 applies: > *campu* > *maka*

Rule 2 applies: > *pucam* > *kama*

Rule 3 applies: > *pulacam* > *kalama*

Rule 4 applies: > *pulaca* (doesn't apply)

Rule 5 applies: > *pulacar* > *kalamar*



2010 Solutions

(H) Ardhay Uzzlepay (4/4)

The Solabar equivalent of the Sorba word *tirpi* 'money' is tilapir.

To answer this question we need to reconstruct the form of the Standard word. Luckily for us it is given in the initial list (p.) as *pitih*. By applying our rules we get: *pitih* > *piti* > *tipi* > *tilapi* > *tilapir*.

However, if instead of assuming that rule 3. is "add *la...*" which we cannot be sure about from the data given, since the syllable following *la* has the vowel 'a' in all three words (plus *solabar*), it is possible that the rule should be add I+vowel where vowel is a copy of the following vowel. This would then open the possibility that that our answer could be *tilipir*. Now given that the final vowel of our Solabar data set only contains the vowel *a*, maybe our rules 4 and 5 should really be collapsed to a single rule: "substitute *ar* for the sound or sounds which follow the first C in the 'new' final syllable. If we applied this rule and allowed for the other two possibilities we would have to allow the possibility of getting Solabar forms: *tilipir*, *tilapir*, *tilipar*, *tilapar*.

In order to disconfirm the incorrect hypotheses we would need to see how a Minangkabau word such as *lilin* 'wax' forms its Solabar form. If it is *lilalir* then we know that our original rules are correct. If it is *lilalar* we know that we need to change our rules. Notice that if the final syllable were always required to end in *ar* then there is no way of distinguishing between our Rule 3 "Add *la...*" or a rule which says "Add IV where V = same as V in final syllable".

Notice that a rule which requires the final syllable to end in *ar* would make for a more complex set of rules. As our rules stand, Rules 1 and 4 are identical - they just apply at different stages in the word formation process. This would not be the case if the Solabar words had to end in *ar*; Rule 4 would be different from Rule 1.

H4. 'ng' is one sound because the Sorba for standard Minangkabau *manangih* 'cry' is *ngirmana*. if 'ng' were two sounds the Sorba word would begin with *g* and end in *n* by our rules. i.e., *girmanan*.

Notice that we would need to create some special specific complicated rules to get a sequence of two consonants (as opposed to two letters representing a single sound) at the beginning of this Sorba word and to exclude them for other words, e.g., how would we prevent *mintak* from being converted to Sorba *ntarmi* rather than the correct *tarmin*?

We are always looking for the simplest solution or explanation to account for the facts we observe.

