

2011 Solutions

(K) A Script for the Ndyuka (1/3)

K1.

a sa kon tyali patili go na ndyuka A	ma mi de aga pe na mi ede I
de taki mi mu oloko moni fosi B	ke mi gadu J
a siki fu mi C	eke fa patili taki a bun gi wi
mi sa go na ati osu D	mi bigi na ini a ulotu K
fu a papila di yu be gi afaka E	oli ulotu
tu bolo F	ma mi de aga siki fu dede L
fa mi sa du	mi masa
masa gadu fu a sa gi me ana G	di mi ná abi moni M
de yaki mi	da na dati mi e begi
mi go na pamalibo na lati ati oso H	ala mi noso poli na ini N
da mi ná abi losutu ye	ma mi sa taki abena O
fu mi deesi	

K2.

A = will	I = my head
B = they say	J = god
C = my illness	K = begin
D = I will go	L = deathly ill
E = Afaka	M = have money
F = two	N = all
G = he will give me	O = But I will talk to Abena
H = Paramaribo	



(K) A Script for the Ndyuka (2/3)

K3.

The first thing we can note about this script is that it must be syllabic, at least roughly: if it were alphabetic (one symbol per sound), it would have to be about twice as long, and there would be fewer different symbol types. That each unit is a syllable is suggested further by the way Afaka spaces the symbols; he seems to be dividing them into units of one to three symbols, and we can see from the Roman transcription that most Ndyuka words are one to three syllables, almost all Consonant-Vowel in shape.

The long bar mark seems to be punctuation; since they divide the text into exactly 23 pieces, and we've been told that there are 23 phrases, it's very likely that it marks a phrase boundary. Counting syllables and matching phrases by length is possible, but is complicated greatly by the fact that we cannot know at the outset how many syllables are in each incomplete phrase. We can get further by matching based on word boundaries, but Afaka's spacing is narrow and often ambiguous. (Both of these tactics, however, will prove useful as part of a larger strategy.)

The easiest tactic at the outset is to try to identify repeated words and syllables. Even with the blanks, we can see that the *mi* is very common, especially towards the beginnings of phrases. (This furthermore suggests that *mi* = "me", since Afaka is mostly talking about himself.) There is likewise one symbol w that very often occurs as one of the first two syllables of a phrase.

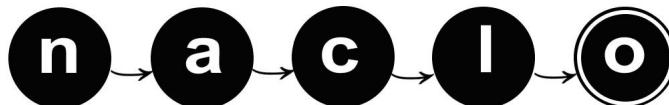
We can determine the identity of many of the short complete phrases (*mi masa*, *fu mi sa du*, *de yaki mi*, *fu mi deesi*) from the position of *mi*, and the positions of the common syllables *ma*, *fu*, *sa*, and *de*. We now know the identity of some of the most common Ndyuka syllables:

$$\text{mi} = \text{w}, \text{ma} = \theta, \text{sa} = \delta, \text{de} = \beta, \text{fu} = \text{uu}$$

(We also see from *sa* that letters are occasionally rotated 180° to no apparent effect, which will aide the later identification of *ga*.)

With these correspondences, the rest of the decipherment is straightforward, and proceeds in the same manner.

The translation of these phrases into English should likewise be straightforward. Identification of the common function words *mi* ("me"), *a* ("he"), *de* ("they"), *yu* ("you"), *sa* ("shall"), *fu* ("for"), and *ná* ("not") should make the identification of longer words straightforward, as will the fact that these and most other words are clearly derived from the English counterparts. We suspect, in fact, that by the end of this problem you were already *taki ndyuka na yu ede*.



(K) A Script for the Ndyuka (3/3)

Grading:

K1: 0.3 points per correctly filled in blank.

K2: 0.3 points per correct translation. The translations are all or nothing, but there's no single right answer to them (i.e., synonyms of the answers listed in this solution get full credit as well).

K3:

- Up to 1.2 points for some basic observations about the system: for mentioning that it's a syllabary, that it's broken into words, that some glyphs rotate to no apparent change, and similar observations.
- Up to 2.4 points for a logical route through the problem to an answer. Full credit on this is reserved for contestants that don't just give a travelogue of their thought (e.g., "At first I thought x would work, but I was wrong, so I tried y instead..."), but whose route takes the reader on the inevitable logical path from the observed data to their conclusion.
- Up to 1.2 points for noticing the probable etymologies of the function words (like de, sa, fu, etc.). Just a good description of their syntactic behavior is enough for half credit.
- Up to 1.2 points for overall clarity and elegance.

Total: 15 points

