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Source: *International Journal of American Linguistics*, Vol. 16, No. 2 (Apr., 1950), pp. 82-86

Published by: [The University of Chicago Press](#)

Stable URL: <http://www.jstor.org/stable/1262852>

Accessed: 29/08/2010 01:29

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A UNIQUE TONE PERTURBATION IN MIXTECO

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1. This paper sets forth a phenomenon of Mixteco tone which runs counter to the trend of other tonal perturbing action, which is with few exceptions always from a mid or low tone to a high tone. First we review briefly Mixteco tonal phenomena described at length by K. L. Pike,¹ and then proceed to the description of a unique exception to these phenomena.

Mixteco morphemes, except for a few monosyllabic ones which have not been found in isolation, are all dissyllabic in their full form; though when uttered in phrases, especially in fast speech, many of them become monosyllabic:² na pre-

¹ See Kenneth L. Pike, *Analysis of a Mixteco Text*, IJAL 10:113-38 (1944), for a description of Mixteco morpheme structure; and Kenneth L. Pike, *Tone Languages*, University of Michigan Publications, Linguistics IV, (Ann Arbor, 1949), pp. 77-94, for a fuller discussion of Mixteco tone. Pike has not handled the unique tone perturbation discussed in the present paper.

This paper is based on the dialect of San Miguel el Grande, Oaxaca, Mexico, as is also Pike's material. The data were gathered during a field trip by the author in 1947-48.

The author wishes to express her appreciation to Kenneth Pike and William Wonderly for their suggestions and help in the presentation of this paper.

² Mixteco phonemes are as follows: Voiceless unaspirated stops /p, t, č, k, kʷ, ʔ/; prenasalized voiced stops /mb, nd, nj, ng/; fricatives /b, d, ž, h/ (/b/ slightly voiced except after glottal stop or between /ə/ vowels, when it becomes [w]); /ž/ = [y] after /l/ or /š/, [ž] ∞ [y] elsewhere;

main verb auxiliary *again, repeat* (no dissyllabic form yet found), as in *nasama repeat change*, i.e. *to change, alter*; *žu mouth of, beside*, before modifiers (<žu?u *mouth*) as in *žu ʳdúča beside the water*.

There are many close-knit phrases of two or more morphemes, in which all morphemes retain their full form, or in which the first morpheme may optionally lose its second syllable, or in which the first morpheme is always abbreviated, in many cases its meaning being lost or obscure. Examples are: *šinì béʔe roof* (< *šinì head* + *beʔe house*); *kʷàʔa núu* ~ *kʷànúu lend* (< *kʷàʔa give* + *núu short time*); *hukʷiñì stand, stop* (< *hu-unknown meaning* + *kʷiñì stand upright*).

The basis of all tonemic analysis in Mixteco is the dissyllabic morpheme, with two units of level tone (referred to as tone couplets). Abbreviated (monosyllabic) morphemes, with few exceptions, act like full morphemes: (1) they condition the perturbation of a following morpheme in the same way as their full (dissyllabic) form does; (2) tone changes effected upon the monosyllabic morpheme in the presence of a preceding conditioning morpheme are the same as they would be for that syllable in the dissyllabic form of the morpheme.

/h/ varying freely with frictionless velar); sibilants /s, š/ (/š/ with some speakers considerably backed); nasals /m, n, ñ/; liquids /l, r/ (/r/ being a flap in the only two enclitics in which it occurs); oral vowels /i, e, a, o, u, ə/ (/i, a, o, u/ approximately as in Spanish *mil, mal, posole, mula*; /e/ as in Spanish *pelota*, with allophone as in English *get* in morphemes with medial glottal stop, medial prenasalized voiced stop, or medial /t/ or /r/; /ə/ high, back, unrounded, often approaching more fronted position); nasalized vowels /i, a, e, u, ə/; high tone /´/, low tone /˘/, mid tone (unmarked).

All morphemes in Mixteco fall into two classes, those which condition the perturbation of the following morpheme and those which do not. High-high morphemes (unless they themselves are derived from another tone class) always condition the perturbation of perturbable morphemes following them.³ Basic (unperturbed) tone couplets high-low, mid-high, and low-mid, never condition the tones of another morpheme. Within the remaining tone couplets, (high-mid, mid-mid, mid-low and low-high), certain morphemes do, and certain do not, condition the tones of the immediately following morpheme. Those which do so are an entirely arbitrary group.

We now review briefly the perturbation of tone couplets when they follow such conditioning morphemes. Tone couplets high-high, high-mid, high-low and mid-high are never perturbed following these morphemes. The remaining tone couplets are perturbed as follows (the first morpheme in the illustrations being the conditioning morpheme and the second the perturbed morpheme):

Mid-mid > high-mid: *kəbə bíko fiesta day* (< *kəbə day* + *biko fiesta*).

Mid-low: Patterns CVV with identical vowels, CV[?]V, and CV[?]CV > high-low: *híí žóð⁴ with the moon* (< *híí with* + *žóð moon*). Patterns CVV with diverse vowels, and CVCV > mid-high: *šini ?itá head of the flower* (< *šini head* + *?itá flower*).

Low-high > high-high: *k^wa[?]à súčí many children* (< *k^wa[?]à many* + *súčí children*).

Low-mid > high-mid: *ⁿdežu bá[?]a good food* (< *ⁿdežu food* + *bá[?]a good*).

³ The only exceptions are *róó you familiar* (full [object] form), and *žóó we inclusive* (full [object] form), neither of which have perturbing influence though they are high-high morphemes. The short enclitic forms -*ró* and -*žó*, however, do affect the tones of following morphemes.

⁴ Long vowels (contiguous identical vowels) and contiguous diverse vowels, are regarded phonemically as consisting of two syllables. See Pike's note on this in *Tone Languages*, footnote p. 79.

2. From the above summary it will be seen that tones are regularly perturbed only to high. However, there is one exception to these rules⁵ which we will now attempt to set forth.

Many common verb phrases are those with the verbs *go* and *come* as auxiliaries, plus another verb. Two of these auxiliaries, both of which mean *go*, are under consideration in this paper; they are hereinafter called 'go auxiliaries' and are now listed in their various aspects (these verbs are also used as main verbs):

kí[?]i will go to a specified location (*kí[?]i is going to a specified location*);

k^wa[?]à will go with destination or time of return not specified (*k^wa[?]à to have gone away and not yet returned*; *há[?]à is going, habitual, i.e. goes often, every day*; *ní há[?]à went away and has returned*; *k^wa[?]á go! imperative*).

These verbs as well as the ones meaning *come* usually (but not always) lose their second syllable (and also the nasal quality of the vowel) when used as auxiliaries in a close-knit construction with another verb. Cf. *k^wàⁿdúkú went to search for* (< *k^wa[?]à + ⁿdúkú*); *kika[?]à will go and speak* (< *kí[?]i + ka[?]à*).

When the *go* verbs are used as auxiliaries, mid-mid verbs following them are perturbed to low-mid. This is a unique perturbation in that (1) the first tone of the mid-mid morphemes becomes low, whereas all regular perturbations are to high tone, and in that

⁵ Beside the exception discussed in this paper, one word, *be[?]e house*, has its first tone changed to low following *iní in, inside*: *iní bè[?]e in the house*. See *Tone Languages*, pp. 81-2, for Pike's discussion of this phrase. Also, some morphemes with high-high tone couplets, when following a mid-low morpheme, are changed to low-high: *itá k^wá[?]á yellow flower* (< *itá flower* + *k^wá[?]á yellow*). See *Tone Languages*, p. 86, on this.

In the neighboring town of San Esteban Atláhuca perturbation of tone from higher to lower (as well as from lower to higher) is very extensive. The tone perturbation discussed in this paper is no doubt either a remnant of this more extensive phenomenon, or it has been developed more fully in San Esteban.

(2) these *go* auxiliaries never condition perturbation otherwise. All mid-mid verbs are so affected by the *go* auxiliaries, except (1) mid-mid verbs which themselves condition the tones of a following morpheme (cf. 3.1. below), and (2) a small group of mid-mid verbs which may be classed as post-main verbs (cf. 3.2. below).

One might postulate tone fusion between the last syllable of the *go* auxiliary and the first syllable of the main verb, if it were not for the fact that when the *go* auxiliary retains its full form (in slow speech) the tone of the main verb is still lowered. Cf. *kikùcí* ~ *kíʔí* *kúcí* *will go and bathe* (< *kíʔí* + *kučí*). Other examples are: *kʷákòto-ró-tá* *Go and watch the animals!* (< *kʷáʔá* *go!* + *koto* *watch, guard* + *-rò* *you, familiar* + *-tə* *animals*); *kikòʔo-ná* *duča* *I am going to drink some water* (< *kíʔí* *will go* + *koʔo* *drink* + *-ná* *I* + *duča* *water*).

Note also the sequence pre-main verb + main verb + post-main verb modifier: *nì hačùʔíčí-ná-de* *I went to put him on the road*, i.e. *I went a short way with him* (< *nì* *completed action* + *haʔá* *went* + *čuʔu* *put* + *ičí* *road* [> *íčí* as post-main verb modifier] + *-ná* *I* + *-de* *he*). In this close-knit construction, the mid-mid main verb *čuʔu* has lost its second syllable, but the first syllable still takes the low tone following the *go* auxiliary. *kičibàʔa-rì* *datíñu* *I am going to put the things away* (< *kíʔí* *will go* + *čiʔi* *pass something through or into* + *bàʔa* *good* [> *čibàʔa* *put away, save*] + *-rì* *I, familiar* + *daʔa* *hand* + *tiñu* *work* [> *datíñu* *things*]).

The verb *kii* *come* is also abbreviated to *ki-* (homophonous with *ki-* < *kíʔí*) when it precedes another verb in a close-knit construction, and thus, when the main verb has tones other than mid-mid, there are many homophonous verb phrases, distinguished only by context. Cf. *kikaʔá* *go and speak* (< *kíʔí* + *kaʔá*) : *kikaʔá* *come and speak* (< *kii* + *kaʔá*). However, for mid-mid main verbs this homophony does not exist, because of the action of the above described rule, which applies to *ki-* < *kíʔí* but not to

ki- < *kii*. Cf. *kikíʔí* *go and get* (< *kíʔí* + *kíʔí*) : *kikíʔí* *come and get* (< *kii* + *kíʔí*); *kiʔjaka* *take away* (lit. *go carry*; < *kíʔí* + *ʔjaka*) : *kiʔjaka* *bring* (lit. *come carry*; < *kii* + *ʔjaka*).

When the morpheme *na* *repeat, again* (disyllabic form not known) comes between the *go* auxiliary and the main verb, it is lowered in tone exactly like a mid-mid main verb: *nì hanásáʔdó* *went to make straight* (< *nì* *completed action* + *haʔá* *went* + *na* *repeat* + *sáʔa* *make, do* + *ʔdó* *straight* [> *sáʔdó* *make straight*]). Moreover, *na* itself conditions following mid-mid verbs (except those described under 3.1. and 3.2.) exactly as do *go* auxiliaries, but only when following these auxiliaries: *kinàtəə* *go and braid* (< *kíʔí* + *na* + *təə*); *kinàkàča* *go and wash* (< *kíʔí* + *na* + *kača*); *kinàkíʔí* *go and get again* (< *kíʔí* + *na* + *kíʔí*).

3. There are two restrictions to the above described tonal action as it affects mid-mid verbs:

3.1. Mid-mid morphemes which always condition the tones of a following morpheme according to regular tone rules described above (1), do not have their tones changed following *go* auxiliaries. This also is an irregular phenomenon; in any other context all perturbable morphemes with this conditioning influence are themselves perturbed following conditioning morphemes. An unperturbed abbreviated *go* auxiliary always takes a low tone before these verbs, if it is in the completive or potential aspect (but *t* takes a high tone in the durative aspect, as do all other verbs). Cf. *kikaʔni-dé šʔdəkə* *he will go and kill the ox* (< *kíʔí* *will go* + *kaʔni* *kill* + *-de* *he* + *šʔdəkə* *ox*). Note that *-de* *he* > *-dé* following *kaʔni* *kill*, and *kaʔni* is itself unaffected by preceding *ki-* (< *kíʔí*). Verbs which condition the tones of following morphemes and which remain mid-mid following *go* auxiliaries are: *kee* *eat*; *kaʔni* *kill*; *kaja* *shake out*; *kažu* *cough*; *kəə* *grind*; *koko* *strike a match*; *koso* *mount an animal*; *kuʔu*

rub; saka *sow*; suku *wrap*; taꞤ *reserve, keep*; taba *take out, extract*; tutu *whistle*; tuu *roll*; šotə *cut, saw*.

3.2. There are a few other mid-mid verbs which might be expected to take the low-mid tone combination following *go* auxiliaries, but which remain unperturbed. However, these verbs are actually to be regarded as post-main verb modifiers, and the *go* verbs as main verbs in a close-knit construction. One example will clarify the distinction. The verb *kožo* *pour out (as water, grain, etc.)*, when in the position of a main verb following a *go* auxiliary, becomes low-mid in accordance with above described rules. However, this verb is much more commonly used as a post-main verb modifier to indicate plurality, with the meaning *pouring forth*, i.e. *in a group*. In such a construction its tones remain mid-mid, even though it follows a *go* verb, which is now not an auxiliary but a main verb. As main verbs the *go* morphemes do not condition the tones of the following morpheme.

kožo > [˩]gožo, in post-main verb position only, following the *go* verbs and other verbs with nasalized vowels. However, following *come* verbs and other verbs with unnasalized vowels, *kožo* remains unchanged. Therefore we have the following: *kikðžo* *will go and pour out* (< *kɨʔi* *will go* pre-main verb + *kožo* *pour out* main verb); *kɨʔgožo* *will go in a group* (< *kɨʔi* *will go* main verb + *kožo* > [˩]gožo *in a group* post-main verb modifier); *kikožo* *come in a group* (< *kii* *come* main verb + *kožo* *in a group* post-main verb modifier).

Note the contrast: *nì hakðžo-de nuni* *he went to pour out the corn* (< *nì* *completed action* + *haʔə* *went* pre-main verb + *kožo* *pour out* main verb + *-de he* + *nuni* *corn*); *ni hà[˩]gožo-de nù žáʔu* *they went to market*, i.e. *several men went in a group to market* (< *ni* *completed action* + *haʔə* *went* main verb + *kožo* > [˩]gožo *in a group* post-main verb modifier + *-de he* + *nu* *to* + *žàʔu* *market*).

The mid-mid verbs, in addition to *kožo* in post-main verb position, (> [˩]gožo after verbs with nasalized vowels), which do not change their tones following *go* auxiliaries, and which are regarded therefore as post-main verb modifiers in these constructions, are as follows: *kaa* *ascend*; *ka[˩]da* *jump, leap*; *ke[˩]da* *emerge, appear*; *nuu* *descend*; *˩da[˩]da* *jump*; *˩de[˩]da* *re-emerge, reappear*; *˩do[˩]da* *rise up against*. It may be added also that the combinations in this group were elicited from the informant, but probably represent a slightly awkward or unnatural construction with these particular combinations of *go* plus a verb denoting further motion.

Note also that the verbs *kaka* *walk*, *kunu* *run*, and *˩daba* *jump over something*, which conceivably should be in this list because they also denote further motion, were, however, given to me by the informant with the lowered tone.

4. The following is a conversation (artificial but checked with an informant) illustrating some of the constructions described in this paper:

Pedro and his wife meet Juana on the road:

Pedro: [˩]dé ɨi kɨʔi-ní.

Juana, addressing the two: *nù žáʔu kɨʔi-ná, kik[˩]əə-ná* *datíñu kɨʔjaka-ná* *náà-ná. te máá-ní, ˩dé ɨi kɨʔgožo-ní.*

Pedro: *kɨʔgožo-ná ra[˩]ʔú, kinàɨʔi-ná itù. kuni-ní ɨi[˩]déé táʔə-ní híí-ná žučəə, kɨʔi-ní ˩duča te ɨu[˩]u-ní nù itú.*

Juana: *kuu núsáá, ná kɨʔjaka-ná ku[˩]ù-ná te jaà-ná žučəə.*

The next day Juana arrives at Pedro's field with her sister:

Pedro: á kikožo-ní.

Juana: *kikožo-ná, kiču[˩]u-ná ˩duča híí-ña.*

Pedro: *kuu núsáá, ná kíkee-ná staà te žúan-na te sátiñu-žó.*

Translation and comments:

Pedro: *Where are you going?*

Juana: *I'm going to market to buy some things to take to my mother. (kik[˩]əə < kɨʔi go*

pre-main verb modifier + k^vaa buy main verb; ki^ajaka ki[?]i go pre-main verb modifier + ^ajaka carry main verb.) *And you, where are you going?* (kí^agožo < ki[?]i go main verb + ^agožo in a group post-main verb modifier. kí- has been perturbed to high here by preceding či direction toward.

Pedro: *We're going to the farm to plant the cornfield.* (kinàči[?]i < ki[?]i go pre-main verb modifier + na repeat pre-main verb modifier + či[?]i plant main verb. Both na and the first syllable of či[?]i carry low tones; see 2.) *Do you want to help us tomorrow by going to get water and pouring it on the field, (i.e. in each hole as the corn is planted)?* (kikí[?]i < ki[?]i go pre-main verb modifier + ki[?]i get main verb.)

Juana: *All right then, I'll bring my sister with me and I'll come tomorrow.*

Next day:

Pedro: *So you've come!* (kikožo < kii come main verb + kožo in a group post-main verb modifier.)

Juana: *We've come; I've come to pour water with her (her sister).* (kiču[?]u < kii come pre-main verb modifier + ču[?]u put main verb. Note that ki- < kii does not affect the tone of the main verb.)

Pedro: *All right then, well I'm going to eat first and then we'll work.* (kíkee < ki[?]i go pre-main verb modifier + kee eat main verb. Since kee is a verb which perturbs the tones of the following morpheme [see 3.1], it is not affected by the go auxiliary. The morpheme na *deliberation* is a perturbing morpheme and so has caused kì- [before main verbs listed in 3.1] to become kí-).