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Series: XXXIV
No: 182

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Tzeltal Phonemes

by

Overton Brent Berlin

(November 18, 1970)

MICROFILM COLLECTION
OF
MANUSCRIPTS
ON
CULTURAL ANTHROPOLOGY
No. 182
Series XXXIV

University of Chicago Library
Chicago, Illinois
October 1, 1977
Professor Norman A. McQuown  
Department of Anthropology  
University of Chicago  
Chicago, Illinois  

Dear Mac:

After looking at Durbin's paper given at the Mayan Ethnolinguistics Conference in New Orleans last year—as well as the earlier paper of Alvarez from which the former takes off—I began rethinking some of the things I brought up in my ms. on Tzeltal glottalized consonants. This led me to look for possible sub-morphemic semantic features in the remainder of the Tzeltal segmental phoneme inventory. The enclosed listing includes all verb roots that I have been able to elicit in the language characterized by the following phonemes: t'-, -t', -x, l-, -l, -s, -s, -s, -w, c'-, -c', and t. I'm in the process of working through the remainder, I have put off working with nouns for the time being.

I am frankly amazed by the amount of patterning in the data which suggest that each of the above may in fact be treated as phonestemes, or whatever you would rather choose to call them. Some (like t') are better than others (like c') but something funny is going on in all of them.

There are several possible explanations, the most conservative of which is one that would suggest that the segments represent fossilized single-phoneme morphemes. This is a possibility, but one that I don't think is borne out in the reconstructions of proto-Mayan. The most speculative explanation—and one which I would like to think about more after hearing your comments—is that Tzeltal fails to exploit the principle of duality as effectively as some other languages, e.g., English. There are numerous ways that one could test this with native speakers, one being to present them with a potential but unused CVC root, one phoneme of which one hopes to prove a phonestheme, and give the individual a choice of three or more possible glosses. My guesses are that one's theory would quickly be borne out by informant response in selecting the 'correct' gloss.

I'm bringing the data to the meetings in hopes that you'll have time to look them over and then visit a bit on your honest feelings about the matter.

Best-
Possible glosses: Tzeltal phonesthemes

t' - 'rapid, individuated movement downward, optionally accompanied by sound'
-t' - 'sustained and continued pressure caused by motion downward or within'
-č - 'warped bends or change in state to bend-like position'
l- - 'flat, more or less horizontal units'
-l - 'oblong, cylindrical shapes or objects'
-s - 'slices, cuts, sweeping movements'
š-, š - 'by hand manipulation'
-w - 'openings'
c' - 'stabbing and twisting motion in downward direction'
-c' - 'stabbing and twisting motion in downward direction'
t - 'standing, erect, movement up, tautness'
t'ar  'sounds of objects rapidly passing ear'
t'as(t'uy)  'strike with the open hand'
t'ay  'dribble drops of liquid'
t'ehk  'sounds of footsteps';  t'eklu '(to) turkey-dance'
t'es  'strike with a broad board'
t'el  'strike raising welts on body'
t'elan  to form into wedge
't'en  to strike a drum
't'ib  to cause drops of water to fall
't'lo  to balance precariously on both ends
't'iś  to flip rapidly; with finger
't'is  to ram into an object
't'il  to break into pieces
't'im  to stretch slender flexible object tautly; to pluck violing
't'oh  to strike with axe
't'ox  to strike with hand on face
't'ok  to form into ball-like form, hair after washing
't'os  to crack in sun, due to heat
't'os  to strike on body, legs, to snap fingers
't'olan  to make vertical piles of granular objects
't'om  to explode
't'om  exaggerated mouthfuls
't'oe  to split with axe down the middle
't'uh  to break off
't'ub(an)  to nourish a fetus
't'uo  to place on vertical end rapidly, first walk of child
't'uś  to drop; throw down rapidly
't'us  to break with finger pressure
't'ul  to dribble drops of liquid
't'un  to stalk
't'uy  to hand up with contents, such as bag
bot'(kin) to tip over
but' to fill container to maximum
hat' to break at base
het' to stretch into exaggerated V shape
hit' to make lash-loops around object
hot' to scrape, scratch
hot' to squat down
lit' to raise up on toes
lot' to squeeze between legs
lut' to close opening or net bag by pulling drawstring
mit' to bind tightly in middle
mut' to snuff out fire
net' to press down with ball of hand
pit' to press hard with fingers
set' to cut with scissors (place object between two objects coming together)
sit' to bind things tightly
šəshti' to swell up (i.e., expand skin surface tightly)
sut' to tie up in bundles
šat' to split it
šet' to tear into small fragments
šet' to cut into chunks
šut' to pinch small pieces, to pinch with fingernails
-vč

beč warped, slender, non-flexible objects with ends raised
beč warped, slender non-flexible objects with ends raised
blč balance one end of non-flexible objects on raised platform
to put bends in objects
boč to extend buttocks (by bending over)
buč place non-upright (i.e., upside down) legged objects
čec to put bends in objects
hač to extend flexib, broad objects
heč raise up from extended position, to sit up
huc to extend buttocks (by bending over)
keč to extend flexib, broad objects
k'ec to form hitching-like sections
k'oč to lift up heavy items
lac to dislodge, pry up, raise up
leč to dislodge, pry up, raise up
lič to pick up hold in hand, thin flat objects
to raise up, both hands under objects
loc warped slender non-flexible objects
meč to pry up one end
peč non-flexible flat disk like objects
to pry up one end
plč to extend flexib, broad objects
p'č to measure across with hand
p'cč remove threads, b rk
pč to lift up head
tec raised welts on body
teč nonflexible objects in non-balanced state
ťč remove bark, surface covering
tcč object in vertical position by outside force
ţ'č balance precariously non-flexible objects
t'čč place in vertical position, up-right position

NB: interaction of meaning of /l/ and /č/
-Vĉ (continued)

hoc  open container

hoc  pull along ground

kuc  to carry it

luc  to take out of open container

paĉ  open container

yoc  to loosen rope
<table>
<thead>
<tr>
<th>1-</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>lac</td>
<td>stacked non-flexible objects</td>
</tr>
<tr>
<td>lač</td>
<td>thin, flexible objects in vertical position, e.g., rabbits' ears</td>
</tr>
<tr>
<td>lač'</td>
<td>blows with rope-like objects</td>
</tr>
<tr>
<td>lap</td>
<td>to put on clothing</td>
</tr>
<tr>
<td>lak'</td>
<td>individual strands of rope</td>
</tr>
<tr>
<td>lam</td>
<td>broad flat-like objects in stack</td>
</tr>
<tr>
<td>leč</td>
<td>thin, non-flexible objects, to pick up thin objects</td>
</tr>
<tr>
<td>leč'</td>
<td>thin peels of fruit</td>
</tr>
<tr>
<td>lep</td>
<td>flat loads</td>
</tr>
<tr>
<td>les</td>
<td>flattened, tapered edges, semi-disk</td>
</tr>
<tr>
<td>len</td>
<td>flattened, tapered edges, semi-disk</td>
</tr>
<tr>
<td>lič</td>
<td>to pick up, hold in hand, thin flat objects</td>
</tr>
<tr>
<td>lič'</td>
<td>thin flat objects in extended position</td>
</tr>
<tr>
<td>lik'</td>
<td>slender, flexible objects</td>
</tr>
<tr>
<td>lim</td>
<td>broad objects in extended position</td>
</tr>
<tr>
<td>lac'</td>
<td>objects wedged in fork</td>
</tr>
<tr>
<td>lek'</td>
<td>'laps of liquid'</td>
</tr>
<tr>
<td>lem</td>
<td>'to ignite'</td>
</tr>
<tr>
<td>lew</td>
<td>'act of opening'</td>
</tr>
<tr>
<td>lif'</td>
<td>'raise on toe'</td>
</tr>
<tr>
<td>liw</td>
<td>'opening of mouth'</td>
</tr>
<tr>
<td>lo?</td>
<td>'bites of soft food'</td>
</tr>
</tbody>
</table>
-vi

bal 'cylinders'
bul 'obj. uprooted'
cal 'space-lines between columns, between rows'
cel 'stacks of non-flexible objects'
c'al 'loads of non-flexible objects'
čal 'prongs as forks on fingers'
čol 'columns of corn, piled grains'
č'ul 'planning rods, straightening wood'
hal 'weaving'
hil 'slender, flexible objects in non-manipulated state'
hol 'act of opening items with pliable covering'
hul 'pricks, stabs'
hul 'action of pulling rope like objects'
kul 'vertically erect oblong object'
mol 'in div. layers'
pol 'total bunch'
pol 'lane, sow'
pol 'to unroll mat'
pal 'buds, sprouts'
sil 'slivers'
šal 'prongs'
šel 'wedge-like cuts'
tel 'oblong, vertically erect'
t'el 'oblong, non-erect solid object'
wel 'slices of objects'
cal 'action of lowering price'
č'il 'frying'
č'ol 'pouring liquids'
č'ol 'planting, sowing seeds'
hal 'to change it'
k'al rooms in house
k'al 'object broken into pieces'
k'ol 'spherical solid object'
mal 'pervorous of liquid'
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>mel</td>
<td>'times'</td>
</tr>
<tr>
<td>mul</td>
<td>'object in liquid'</td>
</tr>
<tr>
<td>nel</td>
<td>'to change direction by 180°'</td>
</tr>
<tr>
<td>nol</td>
<td></td>
</tr>
<tr>
<td>nul</td>
<td>'bites of grain-like food'</td>
</tr>
<tr>
<td>p'al</td>
<td>'blink eyes'</td>
</tr>
<tr>
<td>p'al</td>
<td>'words, speech'</td>
</tr>
<tr>
<td>p'il</td>
<td>'blinks'</td>
</tr>
<tr>
<td>p'ol</td>
<td>'groups of objects'</td>
</tr>
<tr>
<td>sel</td>
<td>'to pry up weeds'</td>
</tr>
<tr>
<td>fol</td>
<td>'times grabbed'</td>
</tr>
<tr>
<td>tul</td>
<td>'actions of plucking fruits'</td>
</tr>
<tr>
<td>t'il</td>
<td>'pieces of broken pottery'</td>
</tr>
<tr>
<td>t'ol</td>
<td>small pieces'</td>
</tr>
<tr>
<td>t'ul</td>
<td>drops of liquid'</td>
</tr>
<tr>
<td>wil</td>
<td>'jumps'</td>
</tr>
<tr>
<td>wol</td>
<td>'round things'</td>
</tr>
</tbody>
</table>
-Vs

bis  'draw a line'
c'is 'individual stitches'
hes  'slice of hide'
his  'slicing strips'
hos  'cutting hair-like objects'
kus  'to clean exterior of object'
mes  'sweeping actions'
pis  'to ball up thin object, e.g. thread'
tas  'to pull out of container'
tes  'to comb hair'
wes  'to cut, scrape'
kes  'cutting, slicing'
kes  'to cut in sawing fashion'
k'as  'complete breakage'
p'as  'sever at oblique angles'
p'lhs  'measure'
t'os  'cracks due to sun'
bus  'small piles'
c'us  'to cover over'
les  'form into disk shape'
pas  'to make it'
p'us  'to bend it'
t'os  'blows on body legs'
t'us  'break with fingers'
šaʔ    'to wash hair'  (hand)
šacʔ    'to stretch it'  (hand)
šatʔ    'human group, standing, random', piece of work'
šal    'pronged object, as fingers on hand'  (hand)
šay    'handful-size bunches'  (hand)
šek    'place object in container'  ?  (see šoh)  (by hand)
šet    'tear off fragments'  (by hand)
šetʔ    'tear off small fragments'  (by hand)
šel    'wedge-like cuts, making prong-like effect'  (like-hand)
šew    'to open cuts, sores'  ?
šiʔ    'to frighten'  ?
ših    'to direct, extend in, as cane through rollers'  (by hand)
šoh    'fill containers by individual items'  (by hand)
šokʔ    'draw up knees'  ?
šot    'form into rolls'  ?
šot    'form into rolls'  ?
šotʔ    'chunks, in situ'  ?
šutʔ    'pinch with fingernails'  (by hand)
-və

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>b'ihs</td>
<td>'spurts of liquid'</td>
</tr>
<tr>
<td>mas</td>
<td>'to mix corn dough in liquid' (by hand)</td>
</tr>
<tr>
<td>mis</td>
<td>'to mix elements by hand'</td>
</tr>
<tr>
<td>nihs</td>
<td>'rubbing motion with fingertips'</td>
</tr>
<tr>
<td>nuš</td>
<td>'to grind it (as corn masa)'</td>
</tr>
<tr>
<td>haš</td>
<td>'to rub with hand'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>češ</td>
<td>'hold severed leaf in hand'</td>
</tr>
<tr>
<td>č'oš</td>
<td>'bind tightly in middle (by hand?)'</td>
</tr>
<tr>
<td>piš</td>
<td>'to wrap up completely' (by hand)</td>
</tr>
<tr>
<td>p'aš</td>
<td>'blows at oblique angles'</td>
</tr>
<tr>
<td>t'as</td>
<td>'strike with open hand'</td>
</tr>
<tr>
<td>t'es</td>
<td>'strike with broad board'</td>
</tr>
<tr>
<td>t'iš</td>
<td>'to encounter obstacle'</td>
</tr>
<tr>
<td>was</td>
<td>'*place in vertical position' (by hand?)'</td>
</tr>
<tr>
<td>Word</td>
<td>Meaning</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>?aw</td>
<td>'sown, as a field'</td>
</tr>
<tr>
<td>caw</td>
<td>'run hand through hair', 'openings'</td>
</tr>
<tr>
<td>čew</td>
<td>'grind corn, first time'</td>
</tr>
<tr>
<td>č'lw</td>
<td>'squint eyes'</td>
</tr>
<tr>
<td>haw</td>
<td>'open it'</td>
</tr>
<tr>
<td>haw</td>
<td>'measure'</td>
</tr>
<tr>
<td>lew</td>
<td>'to open it'</td>
</tr>
<tr>
<td>liw</td>
<td>'open mouth, lips'</td>
</tr>
<tr>
<td>low</td>
<td>'stop cow, to kill it' ('open throat?')</td>
</tr>
<tr>
<td>p'ew</td>
<td>'to separate groups, objects' (open)</td>
</tr>
<tr>
<td>sew</td>
<td>'cut with vertical pressure' (separate)</td>
</tr>
<tr>
<td>šew</td>
<td>'to open cuts, sores'</td>
</tr>
</tbody>
</table>
c'ap  stabbing with a pointed obj
c'am  place in liquid to make pliable
c'et  blows on objects which are cut down
c'b  to make marks, letters, scratches
c'is  to make stiches
c'it  to clean, wipe interior of obj
c'ok  to twist off bark
c'ot  to twist rope like objs
c'oy  to turn, twist
c'u?  to put point on a stick, by twisting
c'u?  to bite sugar cane (by twisting in mouth)
c'up  actions of stabbing
c'un  to plant with a digging stick (i.e., to stab the earth)
c'ak  to tie ends of two flexible objects
c'al  to make preparatory loads
c'ik  actions of enduring pain from stabs
c'ir  sounds, objects dragged across floor
c'o?  to blink eyes
c'ub  to suck liquid
c'uh  drops of liquid
c'us  to close cover, objects
c'uy  hanging objects
<table>
<thead>
<tr>
<th>Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>bic'</td>
<td>make thin flexible objects, i.e., rope, by twisting in middle</td>
</tr>
<tr>
<td>boc'</td>
<td>to become untied, to slip (twist?)</td>
</tr>
<tr>
<td>buc'</td>
<td>to suck soft foods</td>
</tr>
<tr>
<td>hic'</td>
<td>stripping leaves from branch by twisting motion</td>
</tr>
<tr>
<td>hoc'</td>
<td>pull out messy handfuls</td>
</tr>
<tr>
<td>kac'</td>
<td>grip between the teeth</td>
</tr>
<tr>
<td>kic'</td>
<td>draw bow on violin</td>
</tr>
<tr>
<td>koc'</td>
<td>short, shallow stabs</td>
</tr>
<tr>
<td>lac'</td>
<td>objs. wedged in object (i.e., to put in, wedge in, by twisting)</td>
</tr>
<tr>
<td>luc'</td>
<td>to carry hidden in clothing</td>
</tr>
<tr>
<td>mac'</td>
<td>ingest only juices (i.e., sugar cane)</td>
</tr>
<tr>
<td>mic'</td>
<td>decrease in thickness by twisting</td>
</tr>
<tr>
<td>moc'</td>
<td>thrusts on intercourse (stabs)</td>
</tr>
<tr>
<td>nuo'</td>
<td>squint eyes</td>
</tr>
<tr>
<td>pic'</td>
<td>press on objs. to extrude pulp</td>
</tr>
<tr>
<td>poc'</td>
<td>press to make indentations</td>
</tr>
<tr>
<td>puc'</td>
<td>bends in thin objects</td>
</tr>
<tr>
<td>tac'</td>
<td>to pull out</td>
</tr>
<tr>
<td>tuc'</td>
<td>to form into tear shape</td>
</tr>
<tr>
<td>wac'</td>
<td>to press downward forcefully, twisting</td>
</tr>
<tr>
<td>woc'</td>
<td>mix corn gruel (by moving hands)</td>
</tr>
<tr>
<td>wuc'</td>
<td>to press downward</td>
</tr>
</tbody>
</table>
t-'twenty'
tač' 'to pull it along'
tač 'to lift head'
tas 'to pull out of container'
tam 'to pick up from ground'
teb' 'small quantity of something'
tesp 'to bind unanswered something'
tesp 'raised welts, wounds over body'
tek 'living plants'
tek' 'to stand it up'
tes 'to comb it'
tel 'to put in vertical position'
ten 'classes of items, kinds of items'
ten 'to pound it'
ti' 'to eat flesh'
tih 'to knock down'
tike 'to place in balanced position'
tik' 'to gather together'
tim 'to stretch between two points'
toh 'to pay'
tou 'to pull out, roots attached'
tou 'to remove surface covering'
tok' 'actions or objects pulled from ground, item breaking in half'
top' 'to cut in half'
toi 'to grab fistfuls'
tom 'to bind together'
toy 'to raise up'
tou 'to bind near base, flexible objects'
tou 'to form into tear-shape (as certain tamales'
tou 'to place in upright position'
tou 'to cut it'
tul 'human beings'
tul 'to pluck certain fruits'
tuy 'to cut, especially flesh'
END
of film
"Please Rewind"

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