

**“White-blossomed on bended knee”: LINGUISTIC MEDIATIONS OF NATURE
AND CULTURE¹**

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If, as I will try to illustrate in this paper, much of the conceptual raw material for our understanding of the world comes from language, then what we know as “nature” (what, that is, natural scientists, including folk scientists, invest their energies in investigating) turns out to be—or at least starts out as—a disguise for “culture.” Specifically, important aspects of the natural world are best understood as, in the fashionable phrase, “linguistically mediated culture.” Greg Urban has recently argued (1998) that a central vehicle for naturalizing culture is discourse, something that is simultaneously in and about the world. If so, then a primary culprit in disguising this relationship is the transparency of language.

Perhaps the paradigm case of finding “nature” IN “language” (as a particularly tractable subdomain of culture) is the “basic color term” research of Berlin & Kay (1969) and their associates. The method and its underlying logic are familiar. Speakers of different languages are presented with a series of “color stimuli”: Munsell color chips whose sole point of contrast is “color” as we might normally conceive of it. Faced with these chips they are asked to produce appropriate linguistic descriptions. From the resulting expressions, investigators identify elements dubbed “basic color terms” according to a series of interlinked semantic and morphological criteria (eliminating polysemous terms of various sorts, as well as morphologically transparent complex lexemes, and so on). Once identified (and they always are identified), these “basic terms” are passed through yet another filter: investigators locate their prototypical or best exemplars, once again on the color chart. The results of the exercise are compared with the results of similar exercises performed on other languages. We are familiar with the general conclusion: all languages turn out to have very similar sets of color terms, depending on exactly how many “basic” terms there are; systems can be arranged in a putative universal evolutionary sequence in which human languages progressively partition the “color space” into finer and finer discriminations. The finding is linked to

¹ This paper started life as an oral presentation called “Chromatapoetics: Tzotzil color terms and spatial imagery,” Cognitive Anthropology Research Group, MPI for Psycholinguistics, Nijmegen, Sept. 7, 1991. Inspired by ongoing work by Victoria Bricker, it resurfaced in the guise of another paper presented in the session “Verbal Practice: Construing the ‘Cultural’ by Constructing the ‘Natural’”, organized by Michael Silverstein at the Annual Meetings of the American Ethnological Society, Portland, Or., March 26, 1999. I am grateful for comments by Bill Hanks and Bruce Mannheim on that latter occasion.

the intractable hard-wiring of our retinas and brains, a biological fact which on this account naturally seeks cultural expression in language.

More than thirty years after Berlin and Kay (hereafter B&K) published their original little monograph on the subject, there continues to be a major industry in “basic color research,” ramified across disciplines. There is also a minor intellectual industry which criticizes the same research, spawning in turn ripostes and counter critique. (See Hardin and Maffi 1997 for examples.)

One issue is what so-called “color terms” as identified by the B&K procedures “really mean.” How much of their denotational ranges is actually captured by reference to the color chart, or by colorimetric definitions? Are they, indeed, monosemic in the first place, and what licenses an adequate gloss? (These questions are common to all lexicography and by no means easy to answer.) Moreover, what confidence do we have that the color terms identified form a legitimate linguistic set, in terms of the formal/functional criteria that we normally apply to linguistic entities—similar kinds of syntagmatic behavior, participation in paradigmatic links, and so forth? If they do not exhibit such links, we need special arguments to show their semantic inter-relationship; that is, without such formal/functional coherence, the apparent “domain” to which they refer is arguably an extralinguistic imposition. Furthermore, what evidence do we have to exclude wider formal/functional links between “basic color terms” and other linguistic entities, except to appeal from the very start to an essentially circular semantic criterion (making reference to “color”)?

One may also question the method of the B&K project, for example its central reliance as stimuli on standardized color chips (which in the heyday of this research were exported to remote corners of the world by enthusiastic color researchers, sometimes with a truly imperial stance). How do we know that we are dealing with “color terms” when color (as defined by the Munsell chips) is the only available “denotation” in the elicitation task, and other possible “meanings” of the resulting expressions are systematically excluded? Except that we impose such a task on informants, why should we think “color” is a domain at all, or that it matters in any given case, when no attention is necessarily paid to the “color naming” practices of the language users involved? Finally, what legitimizes the central methodological move: to exclude from consideration all but the “basic color terms”—defined on a mixture of semantic, morpho-syntactic, and a priori grounds?

Tzotzil, a close sister of Tzeltal which was one of B&K’s principal languages, has a fairly standard system of “basic color terms,” following this received account. (See example 1.) Indeed, the facts of Tzotzil “basic color naming” lend little support to the sorts of criticisms, just sketched, that are often launched against this program of research. There is a clearly recognizable set of simple CVC roots in Tzotzil that centrally denote colors, despite some non-color glosses. (For example, *sak* means not only ‘white’ but

also ‘clean’ and ‘transparent’; yAx^2 denotes a range of hues including blue and green, but also echoes English ‘green’ in the sense of ‘unripe’ and can refer to a ‘green field’ in the sense of well-watered).

(1) Tzotzil “basic color terms” (monolexemic roots, with standard glosses)

<i>sak</i>	white
<i>ik'</i>	black
<i>tzAj</i>	red (in compounds: <i>chak</i>)
<i>k'An</i>	yellow
<i>yAx</i>	“grue” (i.e., a range including blue and green)

Moreover, the roots form a reasonably well-defined morphosyntactic class, typical of Tzotzil adjectival roots (see Haviland 1994), but showing their specialized character by participating in the construction of what have often been thought of as compound color terms. In the fragment of dialogue shown in (2), an elderly Zinacantec man is telling his son about the epidemic of smallpox (in Tzotzil *kuyel*, named after the blister-like sores it produced) that decimated his village long before even the old man himself was born. In lines 8 and 12 he describes the symptoms of the disease as *sak-k'uyanik*, a term that combines the color information of *sak* ‘white’ with another verbal root *k'uy* which suggests clusters of things, like berries or, in this case, the pox-blister themselves sprouting over the unfortunate victims’ bodies.

(2) An example of a non-basic Tzotzil “color term” in actual usage: discussion of a smallpox epidemic long ago.³

² I write Tzotzil using a practical, Spanish-based orthography in which *tz* represents IPA [ts], *ch* [tʃ], *j* [x], *ʼ* [ʔ], *x* [ʃ], *C'* an ejective or glottalized *C*. The symbol *A* represents a vowel that alternates between *a* and *o* depending on morphological contexts not relevant here.

³ In the transcripts, open square brackets ([]) indicate overlap or simultaneity between turns of different speakers. An equals sign (=) at the end or beginning of a transcript line indicates latching, that is, no pause or break between the two lines so connected. Each transcript line is shown with four lines: the first the transcribed speech, the second a morpheme-by-morpheme breakdown (morphemes are separated by dashes, and derivational affixes where indicated separated by a dash plus equals sign [-=]), a morpheme-by-morpheme gloss line, and a free gloss. An identifying name after a transcript fragment codes the textual or recorded source. The following abbreviations appear in glosses:

!	emphatic particle
1	1st person
2	2nd person
3	3rd person

- 4 x; k'u x'elan taj kuyel chalik une
k'u x-'elan taj kuyel
what AOR-be that smallpox
ch-y-al-ik un-e
ICP-3A-say-PL PT-CL
'What was that disease they call "kuyel" like?'
- ...⁴
- 6 m; muk'tik
muk'-tik
large-PLINC
'They were big.'
- 7 xi smuk'tikil

A	set A prefix
APL	applicative
ART	article
ATR	attributive suffix
B	set B affix
CL	clitic
CONJ	conjunction
CP	completive aspect
CPD	suffix-an for color compounds
DER	derived adjective suffix
DIR	directional
ICP	incompletive aspect
IMP	imperative suffix
IRREAL	irrealis suffix
IV	intransitivizing suffix
NC	numeral classifier
NEG	negative particle
NOM	nominalizer
PASS	passive
PF	perfective aspect
PL	plural
PLINC	inclusive plural suffix
PLX	exxclusive plural suffix
PP	passive perfective
PREP	preposition
PT	particle
Q	interrogative clitic
QUOT	quotative clitic
REL	relator clitic
sp.	species
TOT	"totality" suffix-lej

⁴ The ellipsis means a line has been omitted from the transcript.

Haviland->TK, p. 5

- xi s-muk'tikil
thus 3A-size
'About this big.'
- 8 sakk'uyanik chk ch'iuk
sak-k'uyan-ik chk
white-in_clumps-PL like
ch'i-uk
grow-IRREAL
'They would form big whitish clumps when they grew.'
- 9 x; kere
kere
boy
'Gee!'
- 10 m; [chak chin
chak chin
like rash
'Like a rash.'
- 11 x; aa
Aa
yes
- 12 m; sakk'uyanik
sak-k'uyan-ik
white-in_clumps-PL
'Whitish clumps'
- 13 jpat jxokontik
j-pat j-xokon-tik
1A-back 1A-side-PLINC
'all over our bodies.'

(filmed in Nabenchauk 16 July 1990)

The decidedly “non-basic” “color term” *sak-k'uy-an* is an example of the sort of expression in Tzotzil that prompts the present exercise. My question is: what can we learn about the nature of “nature” by actually examining such things as the “color naming practices” of Zinacantec Tzotzil speakers from highland Chiapas, Mexico?

Shape and space in grammar, revisited

Consider two conceptual domains of “nature” which comparative linguistics suggests to be inherently cultural. Both “space” and “shape” are linguistically (which is to say, socially and semiotically) constructed, and also highly variable across languages: not radically incommensurable, perhaps, but nonetheless interestingly and consequentially non-uniform in their treatment and structuring in linguistic practice.

The example of “space”—often taken to be an unproblematic given behind all experience (or within which our physical experience takes place)—is an instructive case in point. Some cognitive treatments of the subject begin with the premise that space is simply there, and that the physiological constraints on our perception give it for us an

inherent structure, usually thought to be dependent on a body-based egocentric perspective. Such a perspective is then taken to be expressed in turn by linguistic devices for reckoning or otherwise communicating about space. (In English, for example, the fact that we routinely calculate spatial relations with egocentric, body-relative, deictic expressions—“the pond is to the right of the silo”—is taken as characteristic: it involves, to be sure, somewhat complex conceptual operations, but they are based on a set of primitives understood as somehow natural, and thus inevitable.)

Comparative linguistic and ethnographic research, on the other hand, shows differences in perspective and conceptualization that question this Occidental stipulative prejudice. For example, Tzotzil directional terms, even as applied to immediately perceivable local space, far from being egocentric are largely geocentric, relative either to features of the terrain or to the path of the sun. (See example 3.) For smaller spaces they are object-relative rather than deictically anchored, using, e.g., the anatomies of reference objects rather than that of observers to describe positions and spatial relations.

(3) Tzotzil “direction” expressions

- ak'ol ‘up, East’
- olon ‘down, West’
- k'atal ‘sideways, e.g., North or South’

We can see some of these expressions in action in fragments of a route description in (4), where a Zinacantec describes how a road traverses the terrain in terms of both cardinal directions and a kind of positional (or anatomical) imagery which is relative not to an observer’s body but to geographic absolutes. The image for ‘east’ involves upward movement, as the point where the sun rises is considered to be “up(land)”; other images involve either traversing the east-west (up/down) axis by turning “sideways” (here, north), or “standing up” the path, i.e., pointing its “head” upwards (or east) again. (See de León 1992, 1994; Haviland 2000.)

(4) Highway directions

“east”

- 1 m; ta ak'ol, chlok' tal k'ak'ale
 ta ak'ol ch-lok' tal k'ak'al-e
 PREP above ICP-exit DIR[coming] sun-CL
 'above, where the sun comes out.'

“north” (machel.trs)

- 2 te chik'atp'ujotik ech'el
 te ch-i-k'atp'uj-otik ech'el
 there ICP-1B-turn_sideways-1BPLINC DIR[away]
 'there we turn sideways, heading away'

“east again (after heading north)”

- 3 ta jva'anbetik ech'el, chmuy ech'el noxtok li sbelele
 ta j-va'an-be-tik ech'el

Haviland->TK, p. 7

ICP 1A-stand_up-APL-PLINC DIR[away]
ch-muy ech'el noxtok li=
ICP-rise DIR[away] also ART
s-belel-e
3A-path-CL
'We stand (the road?) up, it ascends away again.'

(cancun.trrs)

Comparative research on space is currently extensive, and I will not dwell on results well documented elsewhere.⁵ The relevant point here is that it is by no means obvious that even something so apparently given as “space” can simply be taken for granted as part of “nature” without looking with care at how “it” is linguistically constituted comparatively.

Shape

A second evidently natural domain—shape—has been a central theme of research on Tzotzil and its sister languages. Friedrich’s classic article on “shape in grammar” (Friedrich 1970), inspired by the morpho-lexical elaboration of “shape” notions in Tarascan, advocated that shape was an often overlooked grammatical category. Like other grammatical categories (“gender,” for instance) the fit between linguistic construals and “nature” (that is, the putative language-independent facts of the phenomenon) is by definition problematic and a compelling object of study. There are links or homologies on the one hand, and decouplings on the other. In Tzotzil and its Mayan sisters, there is an exuberant lexical hypertrophy and an accompanying exuberant grammaticalization of what we might naturally call “shape.” Once again, classic work on Tzeltal by Brent Berlin and his collaborators (Berlin 1967, 1968) gave an early indication of the phenomenon, where an apparent linguistic preoccupation—in this case, the profusion of Tzeltal numeral classifiers—gives rise to a characteristic anthropologist’s obsession—here the apparent cognitive specificity that the use of such a linguistic system seems to imply. Brown (1994) generalizes these results to the typical adjectival derivatives of the same shape and position roots in Tzeltal that give rise to numeral classifiers, presenting an exuberant set of some 250 shape adjectives. Perusing Laughlin’s (1975) *Great Tzotzil Dictionary of San Lorenzo Zinacantán* reveals an even larger set of “positional” roots with meanings apparently related to shape.

But wait! (you may say). Aren’t we walking again down the garden path of overenthusiastic relativism here? Is there really anything so special about the elaboration of Tzeltal numeral classifiers or Tzotzil positional roots (like the root *k’uy* present in the compound color term describing smallpox pustules cited above)? We might ask how English comes out on the scale of elaboration of shape words, and I have provided a very

⁵ A good analytical summary is to be found in Levinson 1996; the now classic description of spatial construction through language, in this case Yucatec Maya, is Hanks 1990.

anecdotal preliminary indication in (5) to (10) where I have extracted unabashedly notional categories of entries from the CD-ROM edition of the New Shorter Oxford Dictionary (1996). Judging by the apparently shape-related nouns, adjectives, verbs, and other expressions there assembled, English appears more exotic in its lexical elaborations of shape than one might at first have thought.

There are interesting structural facts about the English shape vocabulary as represented in the NSOED. For one thing, there is a notable predominance of nouns, including many body parts, suggesting that in English at least the forms of common (and not so common) objects provide a powerful model for “shape” in the abstract.⁶ Where English devotes itself to shape adjectives (see 6), many seem transparently derived from nouns, and most have a decidedly technical flavor (leading one to ask for what terminological purposes they have been coined in the first place). (7) shows “shape” related verbs, and (8)-(10) are extracted from notional “shape” expressions of the form, “X shaped” or “shaped like X” where samples exemplars of X are listed.

(5) **New Shorter Oxford Dictionary** (catalogue of possible “shape” concepts via definitions)

NOUNS:

acorn, almond, amoeba, anchor, apple, arch, arm, arrow,
baguette, bale, balloon, banjo, bean, beehive, beetle, bell, bend, berry, biscuit,
block, boat, body, boot, bow, bowl, box, breast, bud, butterfly,
cap, cauldron, cauliflower, cheek, chevron, **circle**, coffin, coil, comma, cone,
corsage, **crescent**, **cross**, crown, cup, curl, **cylinder**,
dagger, delta, diamond, disc, dish, dovetail, dome, dragon, drum, duckbill,
ear, egg, eye,
fiddle, fishtail, flame, flask, flounder, flower, fork,
heart, heel, **helix**, hive, hood, hopper, horn, horseshoe,
j, jigsaw,
key, kidney, knee,
leaf, leg, loaf, lock, **loop**, lune,
magnet, mihrab, minaret, mouth, mushroom,
nail, neck, needle, nipple, nose, number,
oar, obelisk, oyster,
paddle, **parabola**, **parallelogram**, paramecium, patchwork, pearl, petal, pie,
pincer, pipe, pistol, pitcher, plate, **polygon**, prism, purse, pyramid,
rectangle, reptile (Math, a pun, “A two-dimensional figure of which two or more
can be grouped together to form a larger figure having the same shape”),
rib, ribbon, rose,

⁶ Contrast the operating principle in the B&K color research that excludes nouns with other, concrete meanings from the inventory of “basic color terms.”

Haviland->TK, p. 9

saltire, saucer, sausage, scallop, screw, scroll, **semicircle**, serpentine, shell, shield, shoulder, sickle, **sigma**, spoon, spring, **square**, **star**, steeple, stick, strawberry, stump, sugarloaf, tail, target (“resembling a shield”), tear, **tee**, tent, thimble, thumb, toe, **torus** (“a surface or solid generated by the revolution of a circle or other conic about any axis”), tortoise, tree, **triangle**, trident, trough, trowel, trumpet, umbrella, wave, wedge, wing, willow, wineglass, wreath, **zigzag**

(6) ADJECTIVES:

amorphous, **cubical**, cucumiform, cumbersome, **cylindrical**, ellipsoid, **flat**, irregular, lumpish, lumpy, incurvate, labiate, lenticular (“having a flattened shape and dense centre like a spiral galaxy, but without spiral arms.”), lotiform, lozengy, lunule, lyrate (“shaped like a lyre with outwardly curved arms”), mastoid (“Shaped like a female breast”), medusoid (“a more or less domed shape with a central, downward-facing mouth and one or more rings of tentacles.”), moriform (“Having the shape or form of a mulberry”), **oblong**, **octagonal**, ogival (“having the shape of an ogee or pointed arch”), **oval**, palmate, pectinate (“like a comb”), piliform (“like a hair”), pinnate, pendeloque (“[a gem] cut in the shape of a drop”), **plump**, probosciform, rhomboid, rough, **round**, **rounded**, sagittiform, snub (“Short and blunt in shape. Orig. and esp. in snub nose; Geom: Designating any of certain symmetrical polyhedra and polytopes having additional faces and hence more nearly spherical shape compared with the corresponding regular polyhedron etc.”), **spherical**, splintery, squamiform (“Having the shape of a scale or scales.”), turbinate (“Resembling a spinning-top in shape, conical”), vermicular (“Having a sinuous or wormlike shape; resembling a worm in form. Also, consisting of or characterized by wavy outlines or markings.”)

(7) VERBS:

bag, balloon, bow, button, curve, curl, fan, feather, hammer, hollow, hook, misshape, spiral, squat, twist,

(8) a sample of X in definitions: “of X shape”

spiral, irregular, human, conical, cuplike, hemispherical, pointed, oval

Haviland->TK, p. 10

(9) a sample of X in “X-shaped”

wedge-,
irregularly,
exquisitely
bizarrely

(10) a sample of X in “shaped like X”:

a capital A.
the letters of an alphabet
the ancient ampulla
an arrow (e.g. one indicating direction on a map, diagram, etc.) or arrowhead
a pitcher or bottle
ear or ear-lobe (“auricle”)
a candelabrum
shrine, or a cup with an arched cover (“ciborium”)
a column
double-curved bow
an hourglass
a hoe with the blade at an acute angle to the handle
a face
a guitar or a hurdy-gurdy
a curved dagger
a mummy
an upturned boat
a flattened sphere
pants
the butt of a pistol
a sesame seed

Universalist typologies in this domain are certainly imaginable (c.f., Brown & Witkowski 1981). For example, we might be inclined to select just a few items as “basic shape terms,”⁷ derived perhaps from geometry (a good science if there ever was one), using criteria not un-like those of B&K. If we gained enthusiasm for such an approach, kindergarten textbook “shapes” could stand in the same relation to “basic shape term” research as, e.g., kindergarten primary colors have for “basic color term research.”⁸ Even more enthusiastically, we might further point out that research on vision suggests a

⁷ Quite non-seriously, I have put some potential candidates in boldface in the lists extracted from the NSOED above.

⁸ One of John Lucy’s critiques of the B&K methodology begins with the luggage charts airlines present to people who have lost their bags, in a parallel with the Munsell color chips, and conjuring the possibility of a set of “basic luggage terms”--in which surely “shape” would play a central role. See Lucy 1997.

possibly biologically grounded typology of shapes, profiles, and virtual anatomies, from which individual languages might pick (perhaps in ever more differentiated evolutionary sequences as well).⁹

Before getting carried away with such a project, let me turn instead to an alternative linguistic system, to see whether it encourages this naturalization of shape or not. In Tzotzil, the relevant semantic realm must be broadened, on formal grounds, beyond shape, to include what Mayanists traditionally call “positionals” (Kaufman 1971, 1972, , 1990:68) and which, in a language like Tzotzil must be extended to cover nearly the whole range of verbal roots (see Norman 1973).

For a student of Tzotzil, coming from a language like English or Spanish, there appears to be a clear linguistic/cultural preoccupation here. The sheer elaboration of the formally positional root class (which can be characterized fairly unambiguously on the basis of stem-derivation patterns) is striking. Rough counts of different sorts of underlying roots (from each of which dozens of stems can be created) appear in (11).

(11) Counts of Tzotzil verbal roots according to morphological class

	Laughlin (1975)	Haviland (n.d.)
Intransitive	94	70
Transitive	255	320
Positional	350	400
Onomatopoeic		
/Expressive	175	75

The criteria used to assign roots to one group or another have to do with the least marked derived stems and their associated grammatical properties (Haviland 1994, Laughlin 1975:23). For example, from a positional root of form CVC a diagnostic derived adjectival stem is CV₁C-V₁l where the root vowel is reduplicated in the suffix. In the ideal, unambiguous case, the bare positional root cannot itself serve as a stem, whether transitive, intransitive, or adjectival. Thus for example the root *kej* ‘kneeling’ is not by itself a stem of any kind, whereas its least marked form is the derived adjective *kejel* illustrated in (13) and (14). Such adjectival stems occur freely as both primary and secondary predicates, co-occurring with aspect-bearing verbal predicates as in (12) or (13), or with directional modifiers, as in (14). Laughlin also uses as diagnostics for the positional category an intransitive inchoative stem with the derivational suffix *-i*, and a transitive causative stem in *-an*.

Reflexes of positional roots are ubiquitous in ordinary conversation, of all kinds, as well as in the speech of even very young children. Even in standard “thinking for

⁹ See Marr 1982, Jackendoff 1987. Stephen Levinson (1994) has argued that the neurophysiology of vision might provide an alternative to the vagaries of “analogy” in understanding Tzeltal body-part nomenclature. See also Jackendoff 1996.

speaking” tasks (for example, “Frog stories” [Berman and Slobin 1994] told by children), or in the highly structured arcane language of Tzotzil prayer, positionals are rampant, as the next few examples illustrate.

(12) (li kreme) **javal** ik’ot ta vo’, ali stz’i’e **tzukul** iyal.

li krem-e javal i-k’ot ta

ART boy-CL face_up CP arrive PREP

vo’ ali s-tz’i’-e tz’ukul

water ART 3A-dog-CL upside_down

i-yal

CP-descend

‘The boy landed in the water **belly-up**, and the dog fell, **with head downwards**.’

(T9204A, Frog story)

(13) ali krixchano **kejel** to’ox sk’el-oj ochel ch’ene

ali krixchano kejel to’ox s-k’el-oj

ART person kneeling at_that_time 3A-look-PF

ochel ch’en-e

DIR[entering] cave-CL

‘The person was **on his knees**, looking into the cave.’

(T9204A, Frog story)

(14) **kejelon** tal, **patalon** tal

kejel-on tal patal-on

kneeling-1B DIR[coming] belly_down_looking-1B

tal

DIR[coming]

‘I have come **kneeling**, I have come **prostrate**.’

(Ritual speech, curing prayer)

The semantic obsession with a hodgepodge of notions I have been calling “shape” goes beyond just these positional roots. Formally non-positional roots frequently incorporate “positional meanings” into their semantic portmanteaux (and in a partial way into their formal derivational possibilities). An example is the verb root *ch’ik* which is morphologically transitive, and which means “insert something into a narrow crevice or crack, so that it fits snugly.” The specificity of the configuration required for its appropriate use is precisely what characterizes the formally positional roots semantically, although here the root has a different formal character.¹⁰ In (15), for example, the bare root functions as a transitive stem, appearing here in the passive, with an applicative suffix (glossed APL in the example) to produce a form which means ‘have [something] stuck snugly into one.’

(15) **ich’ikbat** yalel taj kuchilu une

¹⁰ That is, the root participates in a different only partially overlapping set of derivational stem-forming processes with ordinary positional roots—see Haviland 1994a, 1994b.)

ich'-ik-b-at yalel taj
receive-PL-APL-PASS DIR[descending] that
kuchilu un-e
knife PT-CL
'She had that knife **stuck down into** her (neck).'
(WW17ii, story of an attack on a mother-in-law)

In (16), however, the speaker uses a transitive verb stem *ch'ikan*, which has the form expected of the diagnostic causative stem of a positional root.

(16) description of video sequence

10 chakakan nichim
 ch-a-kakan nichim
 ICP-2A-insert_between_surfaces flower
 'You stick a flower between (two boards)'
11 acha'lok'es
 a-cha'-'lok'es
 2A-two-extract
 'Then you take it out again'
12 chach'ikan ta lasu
 ch-a-ch'ikan ta lasu
 ICP-2A-insert_tightly PREP rope
 'Then you stick it down in (between the board and) the rope'
13 chach'ikan ta alampre
 ch-a-ch'ikan ta alampre
 ICP-2A-insert_tightly PREP wire
 '(Then) you stick it down in (between the board and) the wire.'

(T9318A)

The central descriptive problem in working out the semantics of these highly specific Tzotzil roots is how to assign an “appropriate” shape word in a given referential and interactional context. Moreover, the classic dilemma of learnability is raised by the facts of acquisition. Lourdes de León (1999) has shown that Tzotzil children exhibit an early preference for semantic specificity, including an early mastery of the semantics of positionals. How Tzotzil children learn both the linguistic resources and the communicative propensity for such specificity is a topic of ongoing research.

A central problem, both for Tzotzil children and for us as analysts, is how to know in advance (on the basis of “nature,” perhaps?) what “shape” is. Geometry is a fine discipline, but its Arab and Greek practitioners did not necessarily predict the sorts of shapes, anatomies, and configurations that Tzotzil thinkers have chosen to denote with simple, monolexemic, CVC roots.¹¹ In (17)-(20) I present a small sampling of Tzotzil

¹¹ Bierwisch (1996: 70) apparently believes that a straightforward extension of componential semantics through the addition of a set of shape/anatomical “primes” (e.g., “UPRIGHT CYLINDRICAL”) will do the trick here, but the program is based on a

roots (extracted in most cases from Laughlin 1975) that fall into notional “shape” groupings, and which go well beyond standard geometries.

(17) “natural” shapes (including body parts)¹²

ch'ix 'stand on end, spine'
chev(2) 'leafy branch, frond'
chex 'leafy branch, lying'
kil 'stretched out long '
lech(2) 'in bowlful'
len 'set on ground, falling'
lep 'set elevated above ground'
los(1) 'set down (ropes, snakes)'
metz 'lying (wood, cane, pencil, knife)'
petz 'standing (tree)'
poch 'lying empty (flat thing)'
pum 'set down bloated'
t'ij(2) 'sitting hatless in sun, large and ripe'
t'och(1) 'standing puffed'
t'ok(1) 'perched, clinging, bulging'
ta'(1) 'stretched out and immobile'
tatz' 'stretched out and swaybacked'
ux(2) 'sitting chubbily'
vach' 'standing stiffly'
van 'sitting dumbly, large'

(18) human (and animal) body postures¹³

chot 'sitting'
ech 'on back'
ja'(3) 'head tilted back'
jav(2) 'face or belly up'
jet 'straddling, legs wide'
jetz 'cross legged, legs tucked'
ke'(3) 'leaning, one leg bent'
kej 'on knees'
kot 'on all fours'
lach 'standing up, pricked (ears)'
lip' 'leaning, about to topple'
lit' 'standing on tiptoe'
lut' 'crouched, head bowed'
nij 'head bowed'
nuj 'face down'
pat 'face down, sagged'

single example rather than a systematic treatment of the Tzeltal facts that he proposes will be amenable to such a solution.

¹² Numbers after roots coincide with the numbering in Laughlin 1975.

¹³ See also Laughlin 1988.

puch' 'lying down'
tiv 'squatting, crouched'
tob 'lying on side'
va' 'on two feet, erect'
vech 'standing unsteadily, wiggling'
vub 'lying on side, knocked over'
xek 'legs widespread'
xok' 'sitting on haunches, doubled'
tz'e' 'tilted, on side, tipped'
tz'et(3) 'pricked, cocked (ear)'
tz'uk(1) 'upside down, head first'
tzub(2) 'squatting, crouching'
tzun(1) 'sitting idle'
tz'uy 'bowed (head), sagging, clump'
p'us 'hunchbacked'

(19) configurations, conglomerations, groups, etc.

chol 'in line'
k'at(1) 'across broadside'
kaj 'on top of'
koy(1) 'sitting close to ground, legs spread '
le'(1) 'face up, pried open'
les 'in watery mound'
lot 'together, gathered'
noch' 'clinging and climbing'
nux 'floating, swimming'
pot(1) 'in cluster, pile'
som 'buried, concealed, covered'
tich' 'on brink'
vol 'clustered together'
votz 'huddled, wrapped in blanket'
yem 'in huge heap'
yom 'small pile or bunch'
poy 'lying crosswise'

(20) culturally conventionalized shapes (including results of actions)

latz 'stacked'
lotz 'in stack or coil'
luk(2) 'coiled, curled'
ni'(1) 'bent down, bent over'
xik'(2) 'propped up, supported'
tz'ik(3) (tz'ikan) 'turn end up'
jil 'unfolded, uncoiled'

Let me repeat that we are here dealing not with individual lexical items—i.e., normal words—but rather with **roots**, which provide the morphological and semantic raw material for the language, the discrete atoms of meaning from which the full lexicon is constructed through derivation and compounding. The root classes leak somewhat into one another, but there are rough morphological criteria for distinguishing the major

classes (see Haviland 1994). Moreover, on comparative grounds we can see that Tzotzil and its sisters and cousins have devoted a large proportion of the total inventory of roots to such a formal/semantic class, and that familiar processes of semantic shift and drift have applied to such raw material as the different languages have evolved.¹⁴

Compound color terms

Everything I have said so far about Tzotzil lexical semantics stands as prolegomena to the observation that, curiously, color and shape come together in Tzotzil. Although Western science conceives color and shape as separate domains, coincident perhaps in visual perception but analytically separable aspects of reality (and physics), Tzotzil lexicography systematically confounds them.

As we saw earlier, Tzotzil has a fairly standard set of “basic color terms,” which constitute as well a formally definable class. Moreover, Zinacantán, where I have learned my Tzotzil, is a reasonably color conscious culture, especially its weavers and embroiderers. This is not a case that on its face undermines the B&K theory of “basic color terms” insofar as the theory depends on the semantic salience and a formal integrity of a lexical set. Space does not permit me to detail the most characteristic sorts of uses of the derivatives of the five “basic” color roots in Tzotzil. The derived stems include, as one might expect, predicative and attributive adjectives (suffixed with *-VI*), as well as inchoative intransitive verb stems (suffixed with the frequent adjective inchoativizer *-Vb*), causatives, etc. Thus, for example, with the root *sak* ‘white’:

(21) **sak** i sil ch’ute
sak li s-yijil ch’ut-e
white ART 3A-disgusting stomach-CL
‘Its disgusting belly was white.’
(Chepmalps)

(22) ati **sakil** ka’e, **sakil** machu
Ati sakil ka’e sakil machu
ART white horse-CL white mule
‘(He had) a white horse, a white mule.’
(WW17II)

(23) k’alal **sakub** osile, puta, chopol chka’itik un
k’alal sakub osil-e puta chopol
when become_white land-CL whore bad
ch-k-a’i-tik un
ICP-1A-hear-PLINC PT
‘When the earth turns white (i.e., when it dawns the next day), damn! we feel terrible.’

¹⁴ One Tzeltal word for ‘seated’, for example, means ‘residing at home’ in Zinacantec Tzotzil; the cognate root for what in Tzotzil means ‘lying flat’ as applied to long, rigid objects, means ‘lying down’ for humans in Tzeltal; and so on.

(Kexlal)

Instead of looking in detail at these “normal” uses of the Tzotzil color roots, I want to turn to a semi-productive set of terms which compound a “color” root with roots of other classes, typically with positionals and verb roots, in a derivational construction shown in (24).

(24) $CVC^1 + CVC^2 + an$

Indeed, one of the distributional facts that contribute to the sense that color roots constitute a formally coherent set in Tzotzil is the fact that these five color roots occur so frequently as the CVC^1 of such a compound adjective. However, as (25) shows, although “color” words predominate in this construction (they represent the five most frequently appearing CVC^1 roots in the collection), other sorts of root also appear in it, three of them, interestingly enough, ultimately derived from nominal roots. Laughlin’s dictionary lists a very large number of *-an* compounds, based in part on mechanically generated lists of such terms drawn from the undergraduate thesis of George Collier (1963); quite a few more such terms which do not appear in Laughlin’s dictionary occur in ordinary discourse.

(25) Frequency of CVC^1 terms in *-an* compounds (counts from Laughlin 1975)

2 *k'un* (soft)

3 *bak* (thin < bone)

3 *tan* (dirty < ash)

3 *te'* (stiff < wood)

12 *sik* (cold)

16 *taki* (dry)

144 *chak* (red)

155 *yax* (grue)

187 *k'an* (yellow)

204 *sak* (white)

214 *'ik'* (black)

=====

943 total *-an* compounds

In (2) with which we began, old Maltil used one such color compound: *sak-k'uy-an(ik)*, with the BASE *sak* “white, clean, light” compounded with the CVC positional root *k'uy* which means something like “crowded, in clumps or clusters.”

Despite the presence of color roots in these compound *-an* words, should they really be considered “color terms” in the first place? What are they used for, and what can these Tzotzil facts tell us about “color” as a putative category of nature? We will address these questions by looking at both morphological and semantic facts in Tzotzil usage.

First note that these words are compounded from shape material used extensively elsewhere in the language. Whereas (25) shows the frequency of different CVC¹ roots in these compound terms, table (26) lists the frequency of different sorts of roots that can fill the second CVC² slot. The roots are classified by Laughlin's principal root category, in turn based on the sorts of stem derivations to which the roots lend themselves. It is clear that the vast majority of these second-slot CVC² roots are positional in character, with the result that the great bulk of the resulting compounds involve a color root plus a positional.

(26) Inventory of CVC² root types in-*an* compounds (drawn from Laughlin 1975):

Onomatopoeic	6
Adjectival	8
Nominal	9
Intransitive Verb	21
Transitive Verb	52
Positional	170
probably Positional	32
Unclassified	26

Laughlin's gloss for our original example—applied to smallpox pustules—*sak-k'uy-an* is “white (many wasp grubs),” and his gloss for the underlying Positional root *k'uy* in its adjectival guise *k'uyul* is “crowded (market), with many wasp grubs.” (As a numeral classifier, Laughlin gives *k'uy* as “In reference to: burrow of edible wasps.”) Clearly, there is an interaction between the apparently colorimetric information of the CVC¹ root and the CVC² positional root.

Second, note that whatever denotational character these compound color terms may have (whether “about” color or anything else), they are rarely referentially neutral, but rather highly expressive. In this, they resemble the so-called “affective verbs” which occur in affectively laden narratives, and many of which are derived from similar root material. Compound color words in Tzotzil far from being flat descriptive terms instead are usually charged with evaluative overtones, both positive (affection, pleased surprise and wonder, praise) and negative (horror, disgust, mocking). Narrative examples from Laughlin's collections of Zinacantec tales (Laughlin 1977) are presented in 27-34. (I have supplied my own English translations to try to emphasize the contribution of the CVC² root, which is also given a rough gloss and characterization in each example.)

(27) *solel la lek sak-mesan*

solel la lek sak-mes=-an

only QUOT good white-sweep=-CPD

'([the room of the banquet] was just clean-swept' . [*MES* = Transitive root, 'sweep']

(T77)

(28) *ixchukbe snuk', ta laso, chuk, te ik'-tzilan laj*

i-s-chuk-be

s-nuk' ta

CP-3A-tie_up-APL 3A-neck PREP

laso chuk

rope tie_up

te ik'-tzil=-an laj

there black-shivering?=-CPD finish

'they tied up [the Blackman's] neck, with a rope, tied him, he perished there black-faced.' [TZIL = unknown root, having to do with the face? the eyes?]

(T123)

(29) mu stak' ja' li ik'-kujan li yolon te' un

mu s-tak' ja'

NEG 3A-answer !

li ik'-kuj=-an li y-olon te' un

ART black-crouch=-CPD ART 3A-below tree PT

'we couldn't [go out alone], because it was dark-and-low under the trees [and there were Blackmen there].'

[KUJ = Positional root, 'hunched over, or low and bent space in which one must be hunched over.]

(T146)

(30) ali ak te' ik'-balan te'e, ja' la chmilvan o un (

ali ak-te'

ART hardwood_staff

ik'-bal=-an te'-e ja' la ch-milvan o un

black-round=-CPD tree-CL ! QUOT ICP-murder REL PT

'[they used to carry] a staff, a black-rounded stick, and they would kill people with that.' [BAL = Positional root, "round, cylindrical".]

(T158)

(31) "k'u chaxi' o, karajo, mi yax-balan achak?" xi la

k'u ch-a-xi' o karajo mi

what ICP-2B-be_afraid REL Shit! Q

yax- bal=-an a-chak xi la

grue-round=-CPD 2A-bottom say QUOT

"What the hell are you afraid of? Is your round ass blue?" he said.' [BAL, again.]

(T123)

(32) ba la sk'el taj yol une, taki-te'an la, chamem la

ba(AUX) la s-k'el taj y-ol un-e

go QUOT 3A-look that 3A-child PT-CL

taki-te'=-an la cham-em la

dry-tree=-CPD QUOT die-PF QUOT

'She went to check on her baby; it was dry and stiff, it was dead.' [TE' = Noun root, 'tree, wood,' hence, 'stiff and extended.']

(T167)

(33) "listzak i pukuje, me', mu jna' k'usi sik-chavan sil k'ob chispik," xi la

l-i-s-tzak li pukuj-e me' mu

CP-1B-3A-grab ART devil-CL mother NEG

j-na' k'usi sik-chav=-an

1A-know what cold-long_legged=-CPD

s-yijil k'ob ch-i-s-pik'

3A-disgusting hand ICP-1B-3A-touch

xi la

say QUOT

“Some demon grabbed me, Mother, who knows what touched me with its cold spindly hand,” he said.’

[CHAV = Positional root, ‘with spindly, long, extended branches’]

(T127)

(34) “an bu toj xak’ot chkale, k’u yu’un ti animal sik-bajan taj a-yil sat?”

an bu toj x-y-ak'-ot

why where too_much AOR-3A-give-2B

ch-k-al-e k'u y-u'un ti animal

ICP-1A-say-CL what 3A-agency CONJ extremely

sik-baj=-an taj a-yijil sat

cold-close=-CPD that 2A-disgusting face

“Why are you only arriving now? Why do you have such a freezing and bare disgusting face?” [BAJ(2)= Positional root, ‘with exposed rounded extremity, e.g., head, belly’]

(T81)

If they are about color (or whatever else the CVC¹ root might denote) at all, these compounds plainly illustrate the sense in which salient distinctions—distinctions that carry the perceptual weight of color distinctions—are routinely (if not obligatorily) drawn between physical objects on the basis of shape, position, arrangement, and configuration, which are again revealed to be Tzotzil conceptual themes.

The grouping of potential or typical referents of *-an* compounds based on a single CVC² root provides a somewhat unusual resource for determining the underlying root semantics. For example, the possible referents describable by a compound like, e.g., *yax-ju’an*, are governed partly by the chromatic character of the color root (here blue/green), but are heavily constrained by the imagery of the positional (here *ju’* which suggests lying or sitting very close to the ground, perhaps in an unstable pose, perhaps trodden upon). Laughlin’s gloss for the compound is “green (meadow, corn field, forest, grass stain).” A typical example, according to my teachers, would be a field of newly sprouted, low-lying grass. The root *ju’* can also be combined with the color root *k’an* ‘yellow’, and Laughlin gives as a typical referent a “dirty diaper,” presumably also found lying on the ground.

Conversational examples are even more revealing, as the color compounds typically receive the elaborately lengthened syllables characteristic of emotive Tzotzil speech.

(35) an explanation from conversation

27 ali ja’ k’u cha’al atimi sa:k ta sjunlej,

ali ja’ k’u cha’al atimi sak ta

ART! what way if white PREP

s-jun=-lej

3A-one-SUF+TOT

28 sak sjo:l, sak, lek tz’akiem,

- 29 sak s-jol sak lek tz'aki-em
 white 3A-head white good join-PF
 oy sak smocheb, oy sak sk'u',
 oy sak s-mocheb oy sak s-k'u'
 exist white 3A-shawl exist white 3A-clothes
- 30 sak-tuka:n xa slekil xi
 sak- tuk=-an xa s-lekil xi
 white-blossom=CPD already 3A-good say'

(That's like if someone is [dressed] entirely in whiiiite, might have white hiiiir, and be completely dressed with a white shawl and a white blouse, then one says "white-blooossomed.")' [TUK = combination Transitive and Positional root, 'split open, bud, blossom, come apart.']

I sometimes think of these compounds as tiny imagist poems that encapsulate color (often semantically "bleached" color—that is, a very schematic characterization of a wide range of hues) with affect and simultaneously bundling in shape, configuration, position, texture—aspects of visual form—and sometimes even sound and physical consistency. Here is an example from a *compadre*'s retelling of a dream, in which while following a horse he found himself in questionable company and was offered something disgusting to eat.

(36) From a nightmare

p; ja' li'e sna xut
 ja' li'-e s-na x-y-ut
 ! this-CL 3A-house AOR-3A-tell
 "This is his house," he told him.'

ja' yech t'omajtik unen vaj
 ja' yech t'om-aj-tik unen vaj
 ! thus thick-PL-PL small tortilla
 'There was a stubby stack of little tortillas there.'

smuk'tikil xi toe
 s-muk'tikil xi to-e
 3A-size thus still-CL
 'No bigger than this.'

ik'ak'il unen k'an-set'an vajetik yilel
 ik'-ak'-il
 black-ATR
 unen k'an-set'=-an vaj-etik yilel
 small yellow-pinch=CPD tortilla-PL it_appears
 'blackened little round-yellowish tortillas, it appeared'

latzal un
 latzal un
 stacked PT
 'stacked up'

mi chave' li'e xi

Haviland->TK, p. 22

mi ch-a-ve' li'-e xi
Q ICP-2A-eat this-CL say
'"Will you eat some of this?" they said.'
(vaycinka.tris)

The compound *k'an-set'an* combines the range of yellows and browns captured by *k'an* with the root *set'* (a combined Transitive Positional root which suggests holding or "pinching" a small amount of some substance between the fingers), and along with the other qualifiers it clearly suggests how unappetizing the proffered food was.

Learning about shape by studying color

We are left with the apparently paradoxical result that one can (and in fact should) look at these highly expressive, non-basic "color" terms not to explore Tzotzil color concepts but precisely to learn about the Tzotzil system of "shape." At the level of practices, color-naming and shape-denoting fall together in Zinacantec Tzotzil, and these *-an* compounds represent their lexical intersection. In what remains of this paper I will show how individual compound "color terms" elucidate the meanings of the component NON-color roots. A preoccupation with the semantics of color naming would, I suggest, blind us to the real interest of this highly elaborated derivational process, which is what these *-an* terms can tell us about the semantics and the categorization not of the CVC¹ "color" roots but of the largely positional roots which occupy the second CVC² position.

I will not attempt an exhaustive classification. Instead, I will present somewhat anecdotally the features of several clear classes of such component roots, using the commentaries and volunteered examples of several of my Zinacantec ritual kinsmen¹⁵ as explanatory illustrations.

A. Norman (1973) noted long ago that in K'ichee' the semantic and formal character of positional roots often leaks into the class of formally transitive verb roots. In Tzotzil, there is also a surprising substrate of apparently positional meanings associated with verbal roots with active (transitive or intransitive) character. Sometimes the semantic association is difficult to construe, and for this reason Laughlin (1975) often posited the existence of two homonymous roots rather than listing two apparently divergent sets of meanings under a single root of mixed character.

For example, the root *jav* produces all the expected forms of a transitive root, meaning 'split in half,' as well as the full range of derived positional forms with a meaning 'belly up.' A clear image is invoked to unite the two: when one splits something (for example, a log) in half, its two halves fall belly (i.e., exposed interior surface) up. It is precisely the exegesis of a term like *sak-javan* (which Laughlin does not list) that makes plain this connection:

¹⁵ Principally, Maryan Ach'eltik and Petul Vaskes, both originally of Nabenchauk.

(37) *sak-javan*

timi **javal** xi to une
timi javal xi to un-e
if face_up,_on_back thus still PT-CL
'If it is belly up this way'

sak-javan xi,

sak-jav=-an xi
white-cut_open=-CPD say
'They call it "white-bellied"'

skotol k'u cha'al k'usi sake,
s-kotol k'u cha'al k'usi sak-e
3A-all what way what white-CL
'Anything that's white'

ali koko noxtok sak li yute,
ali koko noxtok sak li
ART coconut also white ART
y-ut-e
3A-inside-CL
'Like a coconut, it's white inside'

ja' **sak-javan** xa li yute,
ja' sak-jav=-an xa li
! white-cut_open=-CPD already ART
y-ut-e
3A-inside-CL
'So it's inside is "white-bellied"'

naka ta **javbile**
naka ta jav-bil-e
just PREP cut_open-PP-CL
'Only if it has been split open.'

A more difficult case is *baj*, in one alleged homonym a transitive root glossable as “close, lock,” and also shown by Laughlin as *baj* (2) which yields color-compounds (as well as a set of characteristic positional forms) meaning “exposed, bald, featureless”—perhaps exploiting the image of featurelessness that the surface of a truly and tightly closed container will have. For *ik'-bajan* Laughlin gives as a gloss “black (sunburned).” Once again, my compadre Mariano’s example raises at least the possibility that we are really dealing with a single, multifaceted root.

(38) *ik'-bajan*

ja' k'u cha'al mi chaman tzitze,
ja' k'u cha'al mi ch-a-man tzitz-e
! what way Q ICP-2A-buy avocado_sp-CL
'It's like if you buy a tzitz (small, glossy, black avocado variety)'

le'e ik', **ik'-bajan** xi,
le'-e ik' ik'-baj=-an xi
that-CL black black-close=-CPD say
'They're black, they call it "black and closed/featureless"'

ch'ulul li spate . . .
ch'ulul li s-pat-e
smooth ART 3A-back-CL
'It's skin is smooth. . .'

oy yech kiloj p'in
oy yech k-il-oj p'in
exist thus 1A-see-PF pot
'I have seen pots like that'

jna'tik xa buy ikil,
j-na'-tik xa buy i-k-il
1A-know-PLINC already where CP-1A-see
'I don't know where I saw them'

pero ali p'in ali jtos o p'in,
pero ali p'in ali j-tos o p'in
but ART pot ART one-NC[kind] REL pot
'But it was a different sort of pot'

bik'i:t tajmek sti'il,
bik'it ta j-mek s-ti'il
small PREP one-NC[time] 3A-mouth
'With a very small mouth'

muk' li xch'ute,
muk' li s-ch'ut-e
large ART 3A-stomach-CL
'But a big body'

ja' batz'i sti'ile batz'i bik'it xmu:y xi toe pero ik',
ja' batz'i s-ti'il-e batz'i bik'it x-muy
! real 3A-edge-CL real small AOR-rise
xi to-e
thus still-CL

pero ik'
but black
'Its mouth was small, it rose up like this, but it was black'

ik'-bajan p'in xkut vo'one
ik'-baj=-an p'in x-k-ut vo'one
black-close=-CPD pot AOR-1A-tell I
'I would call that a black and closed/featureless pot.'

With formally positional roots, the meaning of a color compound is most often totally transparent and productive: *kot* '[standing] on all fours'; and *kuj* 'with a bent back, or a space configured so as to cause a bent back' all produce "color" words whose imagery relies more on the denoted position than on the often rather meager denotative content about hue. Laughlin suggests as an appropriate referent for *ik'-kotan* a "standing mule barely visible at night." Here is situation offered by my compadre Mariano to illustrate when *ik'-kujan* might be used:

(39) *ik'-kujan*

ch'en, skwenta ch'en,
ch'en s-kwenta ch'en
cave 3A-for cave
'A cave, it's for a cave'

stak' onox xkaltik timi ch'abal lus ta yut na jun kwarto . . .
s-tak' onox x-k-al-tik timi
3A-answer nonetheless AOR-1A-say-PLINC if
ch'abal lus ta y-ut na jun
none light PREP 3A-inside house one
kwarto
room
'Or we could use it for a room, inside a house with no light'

k'u cha'al ch'en k'u cha'al o mu xi'ochotik
k'u cha'al ch'en k'u cha'al o mu
what way cave what way REL NEG
x-i-'och-otik
AOR-CP-enter-1BPLINC
'It's like a cave that we can't get into.'

The image is one of a dark space where one is confined to a crouching (*kuj*) position.

B. Shape roots often incorporate culturally loaded imagery. The root *pit* applies to roundish things, exposed or sticking out. The favorite exemplars are bellies and bottoms, and the only examples most people can think of involving human beings are humorous and insulting. In color compounds, the positional root *poch* denotes flat, wide, possibly floppy, and exposed things, in various hues: a well-toasted (yellow) tortilla, or a frostbitten leaf or ear.

(40) *k'an-pochan*

ta jpastikotik k'oxoxe,
ta j-pas-tikotik
ICP 1A-make-1PLX
k'oxox-e
toasted_tortilla-CL
'Suppose we're making tostadas'

pero kikel,

pero kiki
but leaning
'But they're leaning (against the griddle, for toasting)'

k'an-pochan slekil xi,
k'an-poch=an s-lekil xi
yellow-thin&flat=CPD 3A-good say
'People will say: "look how nice, golden-flat"'

lek xa, lek k'o:n chbat,
lek xa lek k'on ch-bat
good already good yellow ICP-go
'They're ready, nice and brooowned.'

However, it is the shape root as much as the color root that forces its character onto an otherwise inappropriate or unexpected referent, by a process sometimes called "construal," "co-compositionality," or "coercion" (Pustejovsky 1991, Jackendoff 1991). The process is analogous to that of "casting" an object of one sort into the character of another, in strongly typed computer languages. For example, it is hard to think of a human body described by the shape properties of *poch*, except perhaps in something like the following exemplary scenario.

(41) *ik'-pochan*
ak'o nan mi krixchano mi o bu jok'ol ilaje,
ak'-o nan mi krixchano mi oy
give-IMP perhaps Q person Q exist
bu jok'ol i-laj-e
where hanging CP-finish-CL
'Even supposing it were a human being, if he has died by hanging'

ja' onox ch'ik'ub chava'i,
ja' onox ch-'ik'ub ch-av-a'i
! nonetheless ICP-get_dark ICP-2A-hear
'(The body) will turn black, you know'

ik'-pochan kom xi ,
ik'-poch=an kom xi
black-thin&flat=CPD remain say
'People will say, "it became black and floppy."'

chkup-'ik'ij chava'i,
ch-kup='ik'=-Vj ch-av-a'i
ICP-saw=wind-IV ICP-2A-hear
'It choked to death, you see.'

C. Even when the underlying secondary root is NOT verbal, there may be a strong "shape" association, as in the case of the nominal verb roots *bix* and *te'*, both of which have to do with long rigid things (bamboo and wood, respectively), and which are

distinguished by the relative lightness, flexibility, and thinness of bamboo as opposed to wood, which suggests rigidity.

(42) *sak-bixan*

ja' ti bu batz'i ali bake,
ja' ti bu batz'i ali bak-e
! CONJ where real ART bone-CL
'If (a sick person) is very skinny'

“taj sak-bixa:n ikile”,
taj sak-bix-=an
that white-bamboo=CPD
i-k-il-e
CP-1A-see-CL
“He looked pale and wasted away to me,” (people will say).’

pero bak xa,
pero bak xa
but bone already
'But it's because he's gotten thin'

ja' taj sak-bixan sbi une
ja' taj sak-bix-=an s-bi un-e
! that white-bamboo=CPD 3A-name PT-CL
That's what “*sak-bixan*” means. ‘

D. The color terms aid in the decomposition of the meanings of complex verbal roots, which incorporate complex semantic portmanteaux and a very wide range of formal possibilities. Consider, for example, the very difficult root *bal*, of which Laughlin (1975:23-24) writes: “The stream of associations may become nearly surrealistic as in the root **bal(1)** which comprises entries than mean

Round off /log/; braid /rope/; twine /thread/; roll up /blanket/; make (rocket); lose control of self (drunk); flog; flower (corn field); fall a great distance; die; become dry (mouth); rolling; tossing; bubbling; and boiling.”¹⁶

Bal clearly has to do with roundness, cylindrical shape, wrapping, and covering; it is revealed by its associated “color terms” to involve an important component of “surface,” “skin,” or covering on a rounded, cylindrical form.

(43) *k'an-balan*

yok te' timi oy k'on, k'an-balan.
y-ok te' timi oy
3A-foot tree if exist
k'on k'an-bal-=an

¹⁶ In Laughlin’s glosses, words enclosed in slashes represent typical illustrative direct objects, and those enclosed in parentheses illustrative subjects for the verbs in question.

yellow yellow-round=CPD

'The trunk of a tree, it might be yellow, rounded and yellow.'

ja' li te' stuke,

ja' li te' s-tuk-e

! ART tree 3A-alone-CL

'But it is the tree itself'

ma'uk snich, ste'el;

mu ja'-uk s-nich s-te'el

NEG !-IRREAL 3A-flower 3A-wood

'Not its flowers, its trunk.'

(44) *sak-balan*

ali krixchano, stak' pero timi oy lek tajmek

ali krixchano-e s-tak' pero timi oy lek

ART person-CL 3A-answer but if exist good

ta j-mek

PREP one-NC[time]

'You can use it with people, too, if they're really clean'

k'u cha'al oy bu xavil krixchano batz'i sa:k yok sk'obe,

k'u cha'al oy bu x-av-il krixchano

what way exist where AOR-2A-see person

batz'i sak y-ok

real white 3A-foot

s-k'ob-e

3A-arm-CL

'Like if you see someone with really white arms and legs'

le'e sak-balan slekil xi;

le'-e sak-bal=an s-lekil xi

that-CL white round=CPD 3A-good say

'People will say "How beautiful and white limbed!"'

sak-balan, naka ja' yech,

sak-bal=an naka ja' yech

white-round=CPD just ! thus

'(Or describing lowlanders with all white clothes), "white and rounded" that's what you say '

timi chava'i sak,

timi ch-av-a'i sak

if ICP-2A-hear white

'If (their clothes) are white, that is'

sak chavute mu xka'itik,

sak ch-av-ut-e mu x-k-a'i-tik

white ICP-2A-tell-CL NEG AOR-1A-hear-PLINC

'If you were to say just "white" we can't understand that'

yu'un syempre yech ti krixcano yu'un balbal;
 y-u'un syempre yech ti(remote) krixcano
 3A-agency always thus ART person
 y-u'un balbal
 3A-agency roundish
 'Because people are always "rounded."'

E. A feature observed elsewhere in the semantics of Middle American languages is the striking role of specific body-part associations: predicates are restricted to certain sorts of anatomies and their parts.¹⁷ Sometimes these associations are plain from normal verbal usage, e.g., *bet'* "stick out (tongue or other tongue-like protrusion)" (**Error! Bookmark not defined.**). (The examples Laughlin cites suggest typical male joking speech and refer to female genitals.) Sometimes, however, a root seems to function *only* in color-compounds (although a homophonous root of another sort may exist), and to be similarly body-specific. *Tz'ir* as an independent stem-building root, is onomatopoeic, for "clinking, clanking." In color-compounds, it seems to refer exclusively to the appearance of ones *eyes* (46).

(45) *sak-betan*
 ja' ali kok'tik une,
 ja' ali k-ok'-tik un-e
 ! ART 1A-tongue-PLINC PT-CL
 'It's like our tongues'

timi oy k'usi xch'i chava'i ta yut k'u cha'al eal sbie,
 timi oy k'usi x-ch'i ch-av-a'i ta
 if exist what AOR-grow ICP-2A-hear PREP
 y-ut k'u cha'al e-al
 3A-inside what way mouth-DER
 s-bi-e
 3A-name-CL
 'If something grows on them, like canker sores'

sak a'a,
 sak a'a
 white indeed
 'They're white'

chvinaj onox ti sak-bet'an xa,
 ch-vinaj onox ti
 ICP-appear nonetheless CONJ
 sak-bet'=-an xa
 white-protrude_pointed=-CPD already
 'You can see that it's "white and protruding"'

¹⁷ Quine was fond of citing the word "addled" as selectionally restricted to eggs and brains.

ja' li stak' lok'esel tal chava'i,
ja' li s-tak' lok'es-el tal
! ART 3A-answer extract-NOM DIR[coming]
ch-av-a'i
ICP-2A-hear
'Because you can stick it out, you know.'

(46) *yax-tz'iram* (speaking about an old man with a cataract)

yax-tz'iran to chk'elvan
yax-tz'ir=-an to ch-k'elvan
grue-related_to_eyes?=-CPD still ICP-watch
'He looks at people with blue and covered eyes'

xi no'ox smuk'ul
xi no'ox s-muk'ul
thus only 3A-size
'They are this big'

sepsep
sepsep
round_disc-shaped
'Disc-shaped.'

F. The verbal root in a color-compound often drags human activity—especially as it relates to perception—into the center of the overall image. Thus, references to the nature of an object whose color is described may depend on how one might position oneself in it (as we have seen with *kuj* 'hunched'), how available it is to human perception (*muk* 'hide', *mutz'* 'close [eyes]'), or what sort of action produces it (*boj* 'chop', *tuch'* 'cut').

(47) *sak-mukan*
tzotz, ik' yibel,
tzotz ik' y-ibel
wool black 3A-root
'(It's like) wool, it may have black roots'

ik' i yut
ik' li y-ut
black ART 3A-inside
'It may be black on the inside'

pero chkiltik
pero ch-k-il-tik
but ICP-1A-see-PLINC
'But when we see it (on the outside)'

sak-mukan xa kom li sk'u'e
sak-muk=-an xa kom

white-bury-CPD already remain
li s-k'u'-e
ART 3A-clothes-CL
'The wool seems "white with dark colors hidden".'

(48) *ik'-mukan*.
malem xa o mi sobe,
mal-em xa o mi sob-e
go_down-PF already OR Q early-CL
'It might be late in the day, or early'

mu xkiltik lek,
mu x-k-il-tik lek
NEG AOR-1A-see-PLINC good
'We can't see well'

yu'un mu xk'ot lek i jsatike;
y-u'un mu x-k'ot lek li
3A-agency NEG AOR-arrive good ART
j-sat-tik-e
1A-eye-PLINC-CL
'Our eyes can't see [and thus it is "dark and obscure"]'

mas muk'tik te'tik,
mas muk'-tik te'tik
more large-PL forest
'Or it might be a big forest'

mu xkiltik i yut
mu x-k-il-tik li y-ut
NEG AOR-1A-see-PLINC ART 3A-inside
'We can't see inside it.'

(49) *ik'-mutz'an*
k'u cha'al oy chbat luse
k'u cha'al oy ch-bat lus-e
what way exist ICP-go light-CL
'It's like when the lights go out'

ta ak'ubal xa ch'abal xa luse,
ta ak'ubal xa ch'abal xa lus-e
PREP night already none already light-CL
'At night, and there's no electricity'

ik-mutz'an xi,
ik'-mutz'=-an xi
black-close/eye/-CPD say
'People will say "black like with the eyes shut."'

mu nan xk'ot ssate
mu nan x-k'ot s-sat-e
NEG perhaps AOR-arrive 3A-eye-CL
'Perhaps they can't see'

(te) smutz'oj xa cha'i
te s-mutz'-oj xa ch-y-a'i
there 3A-close/eye/-PF already ICP-3A-hear
'They think they've closed their eyes'

ik'-mutz'an xa ikom balamil xiik chka'i,
ik'-mutz'=-an xa i-kom
black-close/eye/-=CPD already CP-remain
balamil xi-ik ch-k-a'i
earth say-PL ICP-1A-hear
'They say, "the world has turned black like with the eyes shut," I think.'

(50) *sak-bojan*
ja' timi o k'u alaj oe,
ja' timi oy k'u a-laj o-e
! if exist what 2A-finish REL-CL
'It's like if you have injured yourself with something'

ali k'alal batz'i chilajotik ta primero,
ali k'alal batz'i ch-i-laj-otik ta
ART when real ICP-1B-finish-1BPLI PREP
primero
first
'When we first get cut'

ch'abal to ox xch'ich'ele,
ch'abal to ox s-ch'ich'el-e
none still at_other_time 3A-blood-CL
'There isn't any blood yet'

ja' sak to tajmek,
ja' sak to ta j-mek
! white still PREP one-NC[time]
'But it's very white'

ja' tz'akal to chlok' xch'ich'el,
ja' tz'akal to ch-lok' x-ch'ich'el
! afterwards still ICP-exit AOR-blood
'Only later does the blood come out'

ja' bojbil chava'i,
ja' boj-bil ch-av-a'i
! cut-PP ICP-2A-hear
'Because it's been cut, you see'

javem chkome,
jav-em ch-kom-e
cut_open-PF ICP-remain-CL
'It stays split open'

i ta xkiltik li sak to nan i sbek'tal jk'obtik,
y ta x-k-il-tik li sak to
and ICP AOR-1A-see-PLINC ART white still
nan li s-bek'tal j-k'ob-tik
perhaps ART 3A-flesh 1A-arm-PLINC
'And when we see that the flesh of our arms is still white'

ja' sak-bojan,
ja' sak-boj=-an
! white-cut=CPD
'(We'll say) "It's white where it is cut."'

bojbil ilaje,
boj-bil i-laj-e
cut-PP CP-finish-CL
'Because we have hurt ourselves by cutting.'

G. Finally, a very small minority of the compound terms actually do seem to have to do with color. Thus, though compounds with *-lo'an* [< *lo'* "eat soft, squishy food"] suggest the color of a ripe, edible fruit, they also seems to denote colors a bit darker than the base color; thus, *ik'ik'-lo'an* (which has the form of a reduplicated CVC¹ from *ik'* 'black') is the Tzotzil way to say *morado* 'purple.' Maintaining the poetic imagery, relatively less bright hues may also be denoted by combining a color term with the CVC² roots *cham* 'die' or *vay* 'sleep.'

Conclusion and prospectus

The last examples, in section G, recall a recently published study by Victoria Bricker (1999) who argues that intensity or brightness is a central variable in Yucatec Maya color terminology, not captured by the "basic color terms" of the language (which number 5 or 6), but systematically discriminated by compound color terms that are structurally cognate with those of Tzotzil. Yucatec has a large number of such compound terms, morphologically compounded with "non-color" elements as in the Tzotzil cases I have described. Although by comparison with Tzotzil, the compounding process is far less productive, on the other hand, the Yucatec terms evince a certain colorimetric systematicity (especially to denote degrees of brightness and differences in texture). For Bricker, they really are "color terms," though quite language specific ones. The differences between Yucatec and Tzotzil suggest a series of further studies, all of which are concordant with principles of Terry Kaufman's opus, and thus worthy of mention in the present context. One imagines a comparative, historical study of the emergence of divergent semantic systems from the same underlying or cognate morphological processes. In a hypothetical proto-form, notional "color" words (and selected other

adjective stems—‘dry’, ‘cold’, etc.) combine with verbal roots (and other morphological markers of the construction). The result, in Yucatec, is evidently an elaborated partially systematic vocabulary of color discrimination. In Tzotzil, the result is a still more elaborated system of complex descriptive images, combining schematic color with characteristic shapes and configurations. Tzotzil has also produced a few lexicalized forms based on this construction: *ik'-lum-an* (black-earth-CPD) is now a conventional word for “dawn,” though its literal meaning is “dark, as of the earth.” Other color compounds of this type have been incorporated into standard place names, for example the Chamula *paraje* named *sak-lam-an ton* (“white-spread-CPD rock”). The details of the historical processes involved in these separate semantic elaborations and lexicalizations are of considerable theoretical and comparative interest (and the study remains to be done).

One can also apply to these materials another characteristic Kaufmanesque interest: comparative semantics, based on classical principles of distribution and form. I began this exercise with a general question about “natural” as opposed to cultural or linguistic categories. The tradition of comparative studies of “color” takes its object as essentially an unproblematic given of nature, an allegedly language-independent domain of denotation. Despite general theoretical doubts one might entertain about such an enterprise, the five basic roots of the Tzotzil color vocabulary do not pose particular problems for such a program, either on formal grounds (the set of roots has formal properties that give it coherence) or on semantic ones (the meanings of the roots seem to correspond to, say, an English domain of color in a reasonably straightforward way). However, the existence of at least one thousand derived “color” terms does lead us to ask whether “color” is, in fact, the appropriate domain for understanding the meaning and usage of such terms. On the basis first of certain other formal patterns in the language, and second from evidence of usage and native exegesis, I have suggested that it is not. Instead, the interesting systematicity in Tzotzil “color” compounds seems to relate less to the perceptual capacities of human color vision than to a thoroughgoing preoccupation in the language with shape, form, and arrangement, a preoccupation evidenced in a wide range of formal systems.

My conclusion is that a rather different “natural” category would emerge from an adequate treatment of the full range of apparent compound color terms in Tzotzil. The notion of color would yield to the predominant spatial theme in the language, such that color is itself subdivided or reconstituted in terms of the position, shape, or disposition of the colored object. The salient “natural” categories would then turn out to be *gestalts* of a radically different sort: sometimes complex geometries or anatomies, arrangements of such *gestalts* in relation to each other, and other perceptual properties (dimensionality, consistency, grain or size, flexibility, and so forth) all bundled together in semantic packages whose salience for the language is demonstrated by the fact that speakers of Tzotzil and its sisters have devoted monolexemic CVC roots to them.

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